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THE EFFECT OF DIFFERENT APPROACHES OF INITIAL INSTRUCTION ON THE READING ACHIEVEMENT OF A SELECTED GROUP OF FIRST GRADE CHILDREN.

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THE OBJECTIVE OF THIS STUDY WAS TO DEVELOP, TRY OUT, AND EVALUATE THE EFFECTS OF BEGINNING READING METHODS FOR FIRST-GRADE CHILDREN WHOSE SCORE FELL BELOW THE 60TH PERCENTILE ON THE METROPOLITAN READINESS TEST. SEVEN METHODS FOR TEACHING BEGINNING READING WERE SELECTED FOR INVESTIGATION--(1) LANGUAGE APPROACH, INVOLVING READING, WRITING, LISTENING, AND SPEAKING, (2) LETTER-SOUND APPROACH, (3) LITERATURE APPROACH, USING EASY-TO-READ BOOKS, (4) SKILLS DEVELOPMENT APPROACH, AND (5,6, AND 7) COMBINATIONS OF THE LANGUAGE APPROACH WITH METHODS (2), (3), AND (4). APPROXIMATELY SEVEN CLASSROOMS PER METHOD, WITH AN AVERAGE OF EIGHT PUPILS IN EACH LOW READING GROUP, WERE INVOLVED IN THE STUDY. DATA WERE GATHERED FOR THE SUBJECTS ON VARIOUS APTITUDE, ACHIEVEMENT, AND INTELLIGENCE TESTS. ALTHOUGH NO ONE METHOD PROVED SUPERIOR TO ALL OTHERS IN ALL RESPECTS, CERTAIN PATTERNS APPEARED WHICH SUGGESTED THE POTENTIAL SUPERIORITY OF THE LANGUAGE METHOD FOR THE LOW READING GROUP PUPIL. RECOMMENDATIONS WERE PROVIDED ON PRACTICES FOR WIDESPREAD ADOPTION AS WELL AS SUBJECTS FOR FURTHER STUDY. (LP)

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THE EFFECT OF DIFFERENT APPROACHES OF INITIAL INSTRUCTION ON THE READING ACHIEVEMENT OF A SELECTED GROUP OF FIRST GRADE CHILDREN

Cooperative Research Project No. 2698

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PROBLEM

Reading failures commonly occur among pupils comprising the "low" group in an average classroom. Often these pupils experience emotional difficulties at home; often they come from families who move frequently and whose cultural and language backgrounds are extremely deprived. As a consequence, many have little time to develop that satisfaction, security, or motivation for reading which a more stable homelife might provide. Obviously, a host of additional factors contributes to compound the problems associated with the low reading pupils.

For example, in introducing the discussion of "Readiness" in the 1960 Edition of The Encyclopedia of Educational Research Blair and Jones state:

> "As the term readiness is used today . . . it implies more than just emotional readiness, although that is important. It also includes physiological maturation, general mental ability, and experiential background, or educational readiness. To be completely ready for an educational activity or learning experience a child must want to learn, be sufficiently mature physiologically, possess appropriate mental abilities, and finally have had the right kind of educational experiences.")pp. 1081-1082.)

Nearly every first grade teacher is confronted with pupils who experience considerable difficulty with the reading process. It is not uncommon to find 25 to 30 percent of the first grade pupils falling in this classification. As these pupils move from one grade level to another their reading often stagnates or regresses to the point where they become potential dropouts.

In the Cedar Rapids Schools, it is standard procedure to place first grade pupils in one of three reading groups. Common practice has required the use of the same basal reading materials but at a later beginning and at a slower pace, the assumption being that they can handle the materials used by the rest of the class provided they take them more slowly. In addition, their enthusiasm for these materials is frequently dampened since they have already heard them presented to the other groups.

First grade teachers therefore have been faced with the problem of adapting the beginning reading program to a group of pupils who perhaps need a different approach altogether than that ordinarily provided in this introductory or beginning reading experience. Developing and maintaining interest and enthusiasm for the reading progress through the use of contemporary materials has not always produced the response desired.

This study was designed to develop and to assess the relative effectiveness of methods and materials especially adapted to such low reading group pupils. It was stipulated, however, that these methods not require the alteration of the normal instructional procedures in the first grade classroom except with the low reading group where the teacher was to use the specially prepared lesson plans in place of the conventional materials.

OBJECTIVES and/or HYPOTHESES

The objective of this study was, thus, to develop, try out and evaluate the effects of seven beginning reading methods for children who fell below the 60th percentile on the Metropolitan Readiness Test: that is, those children who normally constitute the low reading group in any room. It was the intent of this study to develop methods and materials in such a way as to be different from conventional materials and methodology. No attempt was made to measure any of the methods tried in this study against an established or basal reading program. It was hypothesized that no one method would be demonstrably superior in all respects. Rather, the main purpose of the study was to attempt to identify elements or outstanding features of method which could be associated with specific outcomes, elements which could conceivably be combined to produce a superior method for instructing low reading groups in first grade classrooms.

RELATED RESEARCH

Conception of the Problem

Without question, learning to read is considered the single most important achievement of the first grade pupil. Parents and teachers generally agree that without reasonable reading success the child's future school experience is jeopardized. This same concern for the importance of reading is reflected in the expressed opinions of children. McConkie and Nixon,[1] in asking 81 kindergarten children what they felt was the most important thing they would do in first grade, found that "learning to read" was the response given by more than half of the children. Brumbaugh,[2] using a somewhat similar approach, reported similar results. In addition, McConkie and Nixon were, in many instances, given the voluntary response that learning to read would be a difficult experience. Such comments as the following were given:

> #1 My friend Douglas doesn't know how to read. He didn't learn because he didn't listen to the teacher. I don't know what he'll do. He just couldn't learn . . . I think he feels bad.
>
> #2 I know Larry, my brother's friend. He didn't learn because he didn't carefully print the words. He had to do more and more printing. He'll have to stay after school all the time. He cares, and his parents are real ashamed of him. My brother told me so. . .[3]

In exploring what the children thought the task of learning to read would involve, McConkie and Nixon drew the following types of response:

> #1 I'd read the story to her and then she'd tell it to me. That's the way I'd teach her how.

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[1] Gwendolyn W. McConkie and Arne Nixon, "The Perceptions of a Selected Group of Kindergarten Children Concerning Reading," (unpublished Doctor of Education Thesis, Columbia University, 1959).

[2] Florence Brumbaugh, "Reading Expectance," Elementary English Review, Vol. XVII, No. 4 (April, 1940), pp. 153-155.

[3] McConkie and Nixon, *op. cit.*

#2 I'd have him guess the words. He'd say, "That's right?" I'd say, "No, wrong!" And I'd have him guess again until he learned them right.

#3 I'd show him the picture and have him tell me the story.[1]

These responses seemed to reflect the children's own previous experiences with books and other graphic materials, and the voluntary responses pertaining to the difficulty of learning reflected the associations with other children who had had difficulty in reading.

It is certain that in first grade some of these children will experience enough difficulty to be of concern to the parent, to the teacher, and to the child himself. Evidence exists, both scientific and empirical, to substantiate the fact that these children make up a large percentage of the low reading group in first grade classrooms.

One study which examined measures for determining the predictors of success in first grade reading was conducted by Edmiston and Hollahan.[2] Of the ten measures investigated,[3] the collective data of a readiness test, intelligence test and a personality inventory were found to be the best predictors for success in first grade reading.

A few years later, Edmiston and Peyton identified children who fell below the minimal requirements predicted for satisfactory achievement in first grade reading by using the measures researched by Edmiston and Hollahan. They developed and assessed a reading readiness program for these potential first grade reading failures.

Fifty-four first grade children, in two classrooms of the same school in Dayton, Ohio, whose test scores on the Lee Clark Readiness Test, the California Mental Maturity Test and the California Personality Test indicated definite possibility of poor achievement, were placed under specific readiness instruction using the Dolch readiness materials. At the end of each month's training for a series of three months the Metropolitan Readiness Test was administered to these children. Each month those children who scored at or above the critical score of 60 were placed in a reading group. Scores on the end-of-the-year Metropolitan Reading Achievement Test indicated that 12 out of 52 pupils did not attain an achievement score considered desirable for placement with the regular second grade classes. Edmiston and Peyton conclude: "If one can assume that the 52 pupils would not have made satisfactory attainment, 42 were brought to the necessary achievement to proceed with their school group by the readiness instruction. A saving of 80 percent seems worthwhile and commendable."[1]

---

[1] Ibid.

[2] R. W. Edmiston and Catherine E. Hollahan, "Measures Predictive of First Grade Achievement," School and Society, Vol. LXIII, No. 1633 (April 13, 1946), pp. 268-269.

[3] Detroit Beginners Test; mental age; readiness tests accompanying Row, Peterson basal readers; environment inventory; California Personality Test; chronological age; health examination; motor coordination; Monroe Aptitude Test; and school attendance.

In addition to the factors investigated in the preceding studies, Balow,[2] in an investigation of 151 boys and 151 girls in 30 randomly selected schools in a middle class school district, collected data which supported his hypothesis that non-maturational rather than maturational factors are mainly responsible for sex differences in the reading achievement of first grade children. Scores from the Gates Reading Readiness Tests administered in September revealed a significant mean difference in favor of the girls, but the range and variability of the scores for the two sexes were very similar. Scores from the Lorge-Thorndike Intelligence

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[1] R. W. Edmiston and B. Peyton, "Improving First Grade Achievement by Readiness Instruction," School and Society, Vol. LXXI, No. 1843 (April 15, 1950), pp. 230-232.

[2] Irving H. Balow, "Sex Differences in First Grade Reading," Elementary English, Vol. XXXX, No. 3 (March, 1963), pp. 303-306; 320.

Tests given in December established that the boys and girls were of equal average intelligence. The results of the Gates Primary Reading Tests obtained in February showed that the girls achieved significantly higher than the boys in this test. However, when the readiness scores for both sexes were classified in three levels, closely corresponding to the below average, average and above average classification in the readiness test manual, and these scores were held constant, the differences in achievement between the sexes were too small to be significant. Thus it seems to follow that for this population, instruction in readiness skills would be a key factor in equalizing the opportunity for reading success of first grade boys and girls.

The influence of the teacher is another external factor which is even more important in the eyes of Allison Davis than those influences brought out by McConkie, Nixon, and Brumbaugh. He says, "The primary emphasis in the kindergarten and the primary grades, should be placed upon the establishment of a strong relationship of trust and mutual acceptance between the teacher and pupil."[1] According to Davis, all school learning is influenced: by the teacher's feeling toward the student, by the cultural attitudes which the teacher has toward the student and which the student experiences toward the teacher, by the degrees of interest and drive with respect to school work which the student has learned in his family and peer group, and by the presence or absence of intrinsic motivation in the curriculum itself.[2]

In summary, the Edmiston and Peyton work thus showed that in at least one school situation, by identifying children early and using what they considered appropriate special materials, it was possible to alleviate the reading difficulties of all but a very few first grade pupils identified as possible poor achievers. Balow's study pointed up the need for materials especially developed to meet the needs of both boys and girls, and the writing of Allison Davis points to the importance of the teacher as an influence in the young reader's experience. Recognizing the importance of all these factors, the question must then be asked, "What methods and materials may be effectively used by the teacher of the pupil identified as a potential reading problem?"

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[1] Allison Davis, "Teaching Language and Reading to Disadvantaged Negro Children," Elementary English, XXXXII, No. 7 (Nov., 1965), pp. 791-797.

[2] Ibid., p. 793.

Literature Pertaining to the Problem

The literature pertaining to the conception of the problem of how to help, within a classroom situation, pupils who have been identified as probable low achievers in reading, falls into five general categories: (1) the function of language in the beginning reading experience; (2) an examination of the factors involved in making letter sound associations as well as a consideration of their effectiveness on reading achievement; (3) the effect of planned functional involvement in the act of reading prior to systematic reading instruction; (4) a consideration of the possibility of identifying children with perceptual difficulties and evolving appropriate training procedures; and (5) the consideration of what effect writing may have in the beginning reading experience.

The Function of Language in the Beginning Reading Experience

Linguists concur that the basic language is the spoken language. Reading specialists generally agree that to learn to read effectively, a child needs to have acquired an adequate vocabulary and to have developed a functional knowledge of conventional word usage and sentence patterns.

That is to say, for the young child, understanding the spoken language well enough to internalize his reactions, and speaking well enough to fulfill the desire to express his ideas, should precede learning to read. In an effort to gain some idea of the importance of certain language abilities in preparing a child to read, Morrison[1] conducted an investigation designed to study the relationship of the level of sentence structure in oral language to readiness for reading as measured by the Lee-Clark Reading Readiness Test. Data was collected by recording, during the sharing time period, the oral presentations of 83 kindergarten children in four classes, representing a variety of socio-economic levels. Three raters independently assigned an appropriate numerical value to each spoken sentence, placing it in one of four sentence levels; namely, incomplete, simple compound and complex. A coefficient obtained by correlating the raw scores from the sentences structure ratings with the raw scores of the reading readiness test was found to be .72.

Strickland,[2] in a recent examination of the oral language of 100 first grade children, cited that differences among these children were greater in the complexity and individuality in the construction of a sentence, than in the ability to use the basic sentence patterns. That is, even at this grade level, most children could and did use the basic sentence patterns, but common, unembellished sentences were the most frequently used form of the children with low language facility. The ability to use these basic patterns seemed to be more highly related to the education of the parents, particularly those with eight or less years of schooling, than any other variable measured. With respect to the use of complex structures, significant differences were related to mental age, verbal intelligence, occupational status of father, and education of parents. In comparing first graders with third and fifth graders, evidence revealed that the younger children used more sounds (noises, holders, repeats and edits) that were not pertinent to the structure or meaning of what they were saying, than did the older children, and that about half of these appeared at the beginning of the utterance, a third in an interior position, and less than a tenth at the end of the unit. Generally speaking, the first grade children examined used more incomplete sentences than the third or fifth graders, and this was more pronounced with those of low language facility. It should be noted that this evidence is based on the random sampling of a school population which was somewhat skewed to the right of the normal population.

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[1] Ida E. Morrison, "The Relation of Reading Readiness to Certain Language Factors," Challenge and Experiments: *International Reading Association Conference Proceedings*, VII (New York: Scholastic Magazines, 33 West 42nd Street, 1962), pp. 119-120.

[2] Ruth G. Strickland, "The Language of Elementary School Children: Its Relationship to the Language of Reading Textbooks and the Quality of Reading of Selected Children," *Bulletin of the School of Education*, XXXVIII, No. 4 (Indiana: Bloomington, 1962), p. 3.

Data for a longitudinal study of the use and control of language of elementary school children was collected by Loban[1] during approximately the same general period of time as that collected by Strickland. Loban's subjects, consisting of 338 kindergarten children, were studied at regular intervals over a period of eleven years. These subjects were representative of a large urban population with respect to sex, racial background, spread of intellectual ability and socio-economic status. Loban analyzed the language of these children by setting up two groups based on the scores of a vocabulary test administered in kindergarten and the combined teacher ratings of selected language factors. Children were included in these groups if they fell two standard deviations or more from the mean. The results of the study not only are in agreement with those of Strickland: that is, that young children use more incomplete sentences, more sentences of simple structure and more interfering sounds in a meaningful utterance than older children, but also, that this appears to be more typical behavior of the low language ability group than the high language ability at each grade levels. Moreover, these language characteristics seem to persist, with the result that an individual of low language ability says less and has more language interruptions in attempting to say it than the pupil of high language ability. Relationship of language ability to reading achievement was assessed by use of the Stanford Achievement Test, supplemented by a reading progress report based on the number of books read. Statistical analysis revealed a high positive correlation between success in reading and general language facility of a high and low language ability populations examined.

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[1] Walter D. Loban, "The Language of Elementary School Children," NCTE Research Report No. 1 (Champaign, Ill.: National Council of Teachers of English, 1963)).

An investigation by Thomas[1] in Detroit presented evidence of the language of children from low socio-economic areas. For 100 such children who had just completed kindergarten, data was gathered from tape recordings of their conversations. Thousands of words were tabulated, classified and analyzed to ascertain the number of different words used, the length of sentences, the maturity shown in sentence construction, the frequency of grammatical errors and the parts of speech used. The major conclusions indicated that these children: (1) spoke in shorter sentences than do "representative" children of the same age and grade; (2) used a much larger proportion of incomplete sentences than do "representative" children; (3) used a smaller proportion of compound and complex sentences than do "representative" children; (4) failed to elaborate their ideas; (5) committed many more grammatical errors than do "representative" children (common errors include verb not in agreement with subject, auxiliary verb omitted, use of the wrong preposition, use of slang, and redundancy, etc.); (6) used slightly more than half the words in one widely accepted primary-grade word list, and less than half the words in three other such lists; and (7) failed to use about one-fourth of the words appearing in current first grade basic readers (about 70 percent of the words they did use did not appear in the more widely used first grade basal readers).

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[1] Dominic R. Thomas, "Oral Language Sentence Structure and Vocabulary of Kindergarten Children Living in Low Socio-Economic Areas" (unpublished Doctor of Education Thesis, Wayne University, 1961).

Allison Davis believes objects and pictures to be helpful in developing a basic vocabulary, but thinks that one of the best media for increasing the language power of the young child is the story. "The story enables him to extend his experience of nature and people vicariously, and gives him the language of action which is far more interesting to him at this age than the language of categories, description of exposition."[1] Involvement in stories includes the reading or telling of stories by the teacher, the presentation of narrative through such avenues as television and records, and the acting out of these experiences by the child himself. "The use made of the story . . . is in encouraging and stimulating the child to talk, to extend his vocabulary and his concepts, and to increase the complexity of his thinking and verbalization of relationships."[2]

A second study by Morrison,[3] using 44 of the original 83 kindergarten children, attempted to determine the relationship between the ability to retell a story and reading readiness test scores. The story of Peter Rabbit was read in a group situation to these children on nine occasions with a final reading to each child just prior to his retelling of the story. Each child's story was recorded on tape and individual scores were assigned by tallying the number of incidents in the presentation. The score sheet indicated a possible score of 33. The relationship between raw scores on the retelling experience and raw scores on the Gates Reading Readiness Test was found to produce a correlation coefficient of .786.

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[1] Davis, _op_. _cit_., p. 796.

[2] _Ibid._

[3] Morrison, _op_. _cit_., pp. 120-121.

In sampling four sets of widely used beginning basal readers,[1] Strickland found that patterns of sentence structure seemed to be introduced randomly, that provision for mastery through repetition seemed to be lacking, and that there did not seem to be a scheme for control over sentence structure which would parallel that which has generally been accepted for control over vocabulary.[2]

One might conclude from these findings that there is need for the development of reading materials which would make greater use of the language patterns of children and that the need for this type of material might be particularly great for children from a low socio-economic background or for children of parents with little educational background, i.e., those children who are often found in the low reading group of the average classroom.

Using the data summarized by Thomas as well as information from many other exploratory studies which revealed the language usage and interest patterns of children of multi-cultural areas, committees in Detroit, sponsored by the Project of the Great Cities Program for School Improvement, drew up the specifications for the stories of a set of beginning basal readers. These specifications set forth: (1) The stories must describe experiences that can easily be related to the out-of-school lives of the children. Unfamiliar concepts, if suited to the child's age, can more easily be developed through types of activities other than reading, such as going on trips and listening to stories; (2) Every story must have an exciting climax in order to entice the children to read; (3) The books themselves must be shorter than the ones presently in use in order to give the child the pleasure of accomplishment at the earliest possible moment; (4) There must be a larger ratio of running words to different words in order to give the teacher more opportunities to fix correct speech patterns in the child's mind; (5) The story characters must represent different races because we live in an interracial world; and (6) The illustrations provided must appeal to young children; characters should be large and furnish a center of interest, with only enough background to carry the plot.[1]

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[1] Strickland, op. cit. (Allyn and Bacon, Inc.; Ginn; Lyons and Carnahan; and Scott Foresman), pp. 127-128.

[2] Ibid., p. 70.

The above findings show that there is a high correlation between success in reading and general language facility and that in at least one study a correlation of .72 exists between children's development in sentence structure and readiness for reading. The findings point up the need for developing methods and materials which could expand the ability of certain children to build interesting and complex sentences. They imply that stories might be used as a vehicle in extending the vocabulary of children and in increasing the complexity of their talk, as a correlation coefficient of .786 exists between the ability to retell a story and certain reading readiness scores.

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[1] City Schools Reading Program, Teacher's Manual -- Play With Jimmy, Fun With David, Laugh With Larry (Chicago: Follett Publishing Co., 1963), p. 13.

An Examination of the Factors Involved in Making Letter Sound Associations as Well as a Consideration of Their Effectiveness on Reading Achievement

For beginning reading there is a concensus that the acquisition of certain introductory skills basic to word recognition is very important for learning to read successfully. A series of studies using the same large population of over 1,000 first grade children was conducted at Boston University[1] to investigate the level of skill and knowledge which these children possessed at four designated periods during the school year in visual discrimination, letter knowledge, auditory discrimination, and letter sound associations. The findings indicated that: (1) children come to first grade with more skill in visual discrimination tasks related to reading than in auditory discrimination tasks which are so related; (2) most children enter first grade with a highly developed skill for matching letters; (3) less than half of the children can identify, name or write from dictation at least half of the letters of the alphabet at the onset of first grade; and (4) approximately half of the children are unable to make any associations between a sound and its corresponding written representation. The difficulty ranking as given above of the skills remained approximately the same from the beginning to the end of the year. Continual growth was shown to be possible in the development of all these skills and in the acquisition of the designated knowledge.

A second purpose of this project was to determine the relationship of these skills and knowledges thought to be related to success in reading, and other factors in first grade reading achievement. The other factors considered included learning rate for recognition of words, chronological age, and mental age. Tests for measuring reading achievement given in February were an oral reading test based on a pre-primer and primer level vocabulary, and the Detroit Word Recognition Test. Analysis revealed that in relation to measures obtained in September, knowledge of letter names was the best predictor of success. However, when February scores on the designated skills and knowledges were considered, the abilities to associate sound and letter, to apply this phonic knowledge and to make auditory discriminations showed the highest correlations with reading achievement. Further evidence refuted the assumption that a child needs to have a mental age of seven to be able to use phonic knowledge and that a child needs to have acquired a sight vocabulary of approximately 75 words prior to instruction on word analysis.[1] A second paragraph meaning test and a word classification test were constructed based largely on first grade reading vocabulary with some attention given to second and third grade words. These tests and the Detroit Word Recognition Test were administered in June. The relationship of the scores on these tests with the September measures of skills and knowledges again indicated a high correlation with letter knowledge, specifically identifying, naming and writing letters from dictation. Because these learnings were so well acquired by February, a low correlation was found between the February scores and June reading achievement. February tests which did produce correlations as high as .60 with June reading achievement were centered around the skills of associating sounds and letters and applying this knowledge to identifying words and paragraphs.[2] When considering mental age, as measured by the Otis Quick-

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[1] Donald D. Durrell (ed.), "Success in First Grade Reading," Boston University Journal of Education, Vol. CXL, No. 3 (Feb., 1958), pp. 7-43.

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[1] Arthur V. Olson, "Growth in Word Perception Abilities as it Relates to Success in Beginning Reading," Boston University Journal of Education, Vol. CXL, No. 3 (Feb., 1958), pp. 25-36.

[2] Sylvia R. Gavel, "June Reading Achievements of First-Grade Children," Boston University Journal of Education, Vol. CXL, No. 3 (Feb., 1958), pp. 37-43.

Scoring Tests of Mental Ability, a low relationship was found to exist between this factor and reading achievement. The same relationship also was noted between mental age and the studied skills of word recognition. A still lower correlation was obtained between chronological age and these specific skills. Chronological age was negatively related to reading achievement.[1]

A third purpose of these combined studies was centered on the problem of concentrated versus less intensive instruction of these so-called basic learnings. Six hundred and thirteen children in 24 classrooms, approximately half of which were designated experimental classes and half control classes, were the subjects of this experiment. The teachers of the control classes followed the procedures outlined in the basal textbook series, while the teachers of the experimental classes followed a prescribed program which provided group instruction based on the children's needs as evidenced from the results of the September test. Systematic presentations included instruction from learning letter names and experiences in ear training through practice in applied phonics. Based on the same set of tests as described in the previous two studies, the differences in the February test results were statistically significant in favor of the experimental group. Although June achievements were also unanimously in favor of the experimental group, significant differences were limited to tests of word classification and paragraph meaning and all tests of phonic ability.[2]

That letter knowledge is related significantly to reading achievement was also found by Wilson and Flemming.[1] Bond,[2] Robinson,[3] and Roswell[4] have all called attention to the importance of auditory abilities in learning to read. Research by Wepman[5] and others has revealed a low correlation between the skills of auditory discrimination and intelligence.

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[1] Sylvia R. Gavel and Arthur V. Olson, ibid., op. cit.

[2] Eleanor B. Linehan, "Early Instruction in Letter Names and Sounds as Related to Success in Beginning Reading," Boston University Journal of Education, Vol. CXL, No. 3 (Feb., 1958), pp. 44-48.

Anderson[6] studied the problem of whether it was necessary for children to have a mental age of six years and six months in order to identify printed words when they were taught to attack a word by using the oral context and the beginning sound of the word. Four hundred and forty-three kindergarten children in six schools were divided into three mental age groups on the basis of results from the Lorge-Thorndike Intelligence Test, Level 1, Form A, Primary Battery. The groups were defined as low, middle and high according to the following mental age ranges: 52 through 65 months; 66 through 78 months; and 79 through 91 months. The methods and materials developed by McKee and Harrison and published by Houghton Mifflin Company were used for a three-month period. This instruction was intended to develop skill in: (1) using spoken context; (2) listening for letter sounds; (3) distinguishing letter forms; (4) using spoken context and sound clues together; (5) associating letter sounds and forms; (6) using spoken context and letter sound associations; and (7) using spoken context and the first letter in a printed word. Pupil gains were measured from the scores attained from the use of the Test of Skills Basic to Beginning Reading, published by Houghton Mifflin before and after instruction. Results indicated that: (1) the pupils in all three mental age groups seemed to have benefited equally from the program; (2) the boys benefited as much as the girls; (3) using spoken context and distinguishing letter forms were two skills which appeared to be already learned by the high mental age group and easily learned by the middle and low mental age groups; (4) associating letters and sounds seemed to be the most difficult skill in the program with performance directly related to mental age; and (5) when used with spoken context, letter-sound associations became less difficult for all groups.

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[1] Frank T. Wilson and Cecile W. Flemming, "Grade Trends in Reading Progress in Kindergarten and Primary Grades," Journal of Educational Psychology, Vol. XXXI, No. 1 (Jan., 1940), pp. 1-13.

[2] Guy Bond, "The Auditory and Speech Characteristics of Poor Readers," Contributions to Education, No. 657, (New York: Columbia University, 1938).

[3] Helen Robinson, Why Pupils Fail in Reading (Chicago: University of Chicago Press, 1946).

[4] F. G. Roswell, "Observations on Causation and Treatment of Learning Disabilities," American Journal of Orthopsychiatry, Vol. 24 (Oct., 1954), pp. 784-788.

[5] Joseph M. Wepman, "Auditory Discrimination, Speech and Reading," Elementary School Journal (March, 1960), pp. 325-333.

[6] Dorothy May Anderson, A Study to Determine if Children Need a Mental Age of Six Years and Six Months to Learn to Identify Strange Printed Word Forms When They Are Taught to Use Oral Context and the Initial Sounds of the Word, (unpublished Doctor of Education Dissertation, Colorado State College, Greeley, 1960).

In summary, the preceding studies present evidence to support the assumption that a knowledge of letters and their sounds correlates highly with reading success; that the acquisition of such phonic skills seems more highly correlated with reading achievement than with either mental or chronological age; and that children of varying mental age are able to acquire such skills.

The Effect of Direct, Functional Involvement in the Act of Reading Prior to Systematic Reading Instruction

Learning to think, an even more basic process than learning to use language, is a prime goal of early education.[1] Bruner,[2] Russell,[3] and

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[1] Allison Davis, op. cit., p. 795.

[2] Jerome Seymour Bruner, The Process of Education (Cambridge: Harvard University Press, 1960).

[3] David H. Russell, "Children Work with Ideas," Childhood Education, Vol. XXXVII, No. 5 (January, 1961), pp. 211-212.

Wann, Dorn and Liddle[1] believe that young children can and should solve their problems or pursue their interests by observing, by recognizing relationships, by making inferences or judgments, and by reaching reasonable conclusions. To penetrate even deeper, we must learn to solve problems by being aware of the problem and by transferring what we already know to the new situation. The probability of transferring the newly acquired skill or knowledge is increased by generalizing or intellectualizing our experiences, by developing concepts, and by practicing the new learning in varied contexts. Further, and highly important, "We can increase transfer by building attitudes favorable to learning."[2]

Blakely and Shadle[3] attempted to specifically investigate the question, "Does a kindergarten child show more readiness and potential for reading after he has been through the readiness books of a basal reader program or after he has had an activity program of experiences?" One school followed the basal reader program with the morning kindergarten group and an activity program with the afternoon group. The schedule for each session was essentially the same except for the period devoted to the designated instruction of the experiment. An illustration of a unit in the activity program is described as follows: "When some of the children brought toy automobiles to the classroom, the collection of such automobiles was begun. The colors of the automobiles were noted. Pictures of automobiles, buses, trucks, etc., were displayed. Later some of the pictures were pasted in a book, called Our Automobile Book. The Giant Nursery Book of Things That Go, and The Big Car and Truck Book were introduced. There were dramatizations and discussions concerning safety and the importance of the traffic policemen and patrol boys; creation of verse; and the use of songs and rhythm band selections involving the sounds of horns, motors, wheels and brakes."[1] Twenty-eight children, 14 boys and 14 girls, were in each group and were matched for sex and chronological age. The Metropolitan Readiness Test, Form R; an informal reading readiness check list; and the Banham Matural Level Check List for School Entrance and Reading Readiness were administered in November and again in January at the conclusion of the experimental period. Results were determined and reported in terms of differences between the means for matched pairs of subjects. One measure, the New Basic Reading Test (Scott, Foresman), to accompany the basal reader text, was used only once at the termination of the study. The results showed that the experience-activity approach provided significantly better readiness training for boys than did the basal reader readiness workbooks approach. For girls, the difference in four of the experience-activity programs was not so pronounced. The two researchers concluded that subject to the limitations of the study, "Inasmuch as girls profit equally from either approach, and boys clearly profit more greatly from the experience-activity approach, the latter is to be recommended at the kindergarten level in preference to the former."[2]

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[1] Kenneth D. Wann, Miriam S. Dorn and Elizabeth A. Liddle, Fostering Intellectual Development in Young Children (New York: Columbia University, Bureau of Publications, Teachers College, 1962).

[2] Edgar Dale, "Principles of Learning," Newsletter (Columbus: Bureau of Educational Research and Service, Ohio State, January, 1964).

[3] Paul W. Blakely and Erma M. Shadle, "A Study of Two Readiness-for-Reading Programs in Kindergarten," Elementary English, Vol. XXXVIII, No. 7 (Nov., 1961), pp. 502-505.

Althouse[3] developed at the kindergarten level a structured program in intellectual learning with emphasis on solving problems in the area of social studies, science, health and safety. Use of reading skills and knowledge were an inherent part of learning. Althouse attempted to classify and describe the reading skills used during the study of each program.

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[1] Ibid., p. 503.

[2] Ibid., p. 505.

[3] Rosemary Althouse, A Meaningful Approach to the Teaching of Readiness in Kindergarten (unpublished Master's Thesis (University of Iowa, June, 1957).

Ballagh[1] developed five problem solving units, similar in structure to those of Althouse, and evaluated the relative effectiveness of this approach to reading as compared to the traditional workbook approach. The study, carried on for two months in the midyear of kindergarten with ten kindergarten classes, indicated that gains on a five-part listening test and a specially prepared visual discrimination test of words and nonsense syllables were slightly in favor of traditional workbook approach and that performance on three subtests of the Harrison-Stroud Readiness Profiles (Using Symbols, Using Context and Auditory Clues), also favored the control group. Ballagh suggested other factors to consider. All teachers in the experimental group expressed interest in continuing to use the approach. Children's interest ranged from average to good with observational evidence of increased attention and ability to participate in discussion. Little difference was noted according to sex or chronological age; however, children of lower intelligence seemed to experience some of the usual kinds of difficulty. Ballagh recommended a problem-solving unit approach, since it adds to the total fund of knowledge of the five-year-old with the opportunity of meaningfully using reading skills, supplemented by exercise of the practice type, since there is reason to believe that such reinforcement of reading skills would result in better preparedness for reading as measured by a reading readiness test.

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[1] Sandra P. Ballagh, A Comparison of the Two Methods of Teaching Reading Readiness at the Kindergarten Level, (unpublished Master's Thesis, University of Iowa, August, 1960).

Report of a study based on an exposure to easy-to-read books beginning in October of the kindergarten year was made by Sutton.[1] One hundred and thirty-four children were afforded the continual opportunity of examining books and the encouragement to attempt to read from them if they so desired. (Less than half of the children showed a continuing interest in reading throughout the year.) Results of the Gates Primary Reading Tests administered in April revealed that 46 children had an achieved reading level of at least 1.3 with a median grade level of 1.7. Twelve of the 46 were reading at second grade level. Sutton believes that these children profited from the joy experienced in being able to read a book, from having a learning tool to find answers to questions, and from the desirable attitudes developed toward school as a place to learn.

A Consideration of the Possibility of Identifying Children With Perceptual Difficulties and Evolving Appropriate Training Procedures

Work such as that conducted by Kephart,[2] Radler and Kephart,[3] and Getman[4] have pointed up what may be another area of need in the child's development -- that of specific perceptual training. Although definitive results are not available from their work, it has provided suggestions for activities designed to improve gross and fine coordinations.

Simpson,[5] in a study conducted with 360 randomly selected first grade pupils in the Lafayette, Indiana Public Schools, endeavored to determine the relationship between performance on perceptual subtests of the Metropolitan Readiness Test and the Primary Mental Abilities Test and reading achievement as measured by the Metropolitan Reading Test; and, to measure the effectiveness of a specially prepared perceptual training activities program in improving reading achievement.

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[1] Marjorie Hunt Sutton, "Listen to the Little Ones," Elementary School Journal, Vol. LXIV, No. 6 (March, 1964) pp. 297-300.

[2] Newell C. Kephart, The Slow Learner in the Classroom (Columbus: Merrill, 1960).

[3] D. H. Radler and Newell C. Kephart, Success Through Play (New York: Harper, 1960).

[4] G. N. Getman, How to Develop Your Child's Intelligence (Luverne, Minnesota: By the Author, 1958).

[5] Dorothy Margaret Simpson, Perceptual Readiness and Beginning Reading, (unpublished Doctoral Dissertation, Purdue University, May, 1960).

The instructional program included study of the pupil's visual characteristics, development of left-to-right eye movement through concentration on physical exercises, adaptation of visual and perceptual training activities to existing classroom activities, use of various kinesthetic approaches to learning letters and numbers, and training for adjusting to differences in visual fields. The program was designed as a five or ten minute period once or twice a day in addition to the regular reading program. Statistical evidence indicated that the perceptual subtests of the Metropolitan Readiness Test and Primary Mental Abilities Test; namely, numbers, matching, copying and space relations, had higher correlations with performance on the Metropolitan Reading Test than did other subtests, and, that the perceptually trained group performed significantly better than the control group in the Metropolitan Reading Test. Simpson believes that at the first grade level there is evidence to justify increased emphasis on the teaching of reading as a perceptual art as well as as a language art.

In addition to the work done by Simpson, the Cedar Rapids School psychologists in their testing of elementary referrals beyond the first grade, often found perceptual difficulties to be part of the pupils' problems. Out of these findings came the conviction that if such pupils could be identified and given specific work to remedy or at least alleviate such difficulties early, their later school experience might be considerably altered.

A Consideration of the Effect of Writing in the Beginning Reading Experience

There is little, if any, current literature pertaining to the direct effect of writing on the beginning reading experience. Approximately 30 to 35 years ago, Voorhis,[1] Long and Mayer,[2] and Houston[3] conclusively determined the value of manuscript writing over cursive writing as an aid in helping the first grade child learn to read. Empirically, the experience reading approach used by Cooke[4] as early as 1900 and, scientifically, the study of relationship of the language-experience approach, the individualized reading approach, and the basal reader approach to early reading success conducted by Allen[5] as recently as 1962, provide favorable, although indirect evidence of the value of early writing experiences.

Comments such as that of Gertrude Hildreth:

> In view of children's early interest and experience with imitative writing, the ease of learning manuscript writing, and the close tie between reading and writing, teachers are advised to provide informal writing experiences for children early in the first grade, devoting as much time to writing as to reading in beginning instruction.[6]

have also purported that the use of writing is positively related to success in beginning reading.

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[1] Thelma G. Voorhis, "The Relative Merits of Cursive and Manuscript Writing," (New York: Columbia University, Bureau of Publications, Teachers College, 1931).

[2] Howard Long and Willa Mayer, "Printing vs. Cursive Writing in Beginning Reading Instruction," Journal of Educational Research, Vol. XXIV, No. 5 (Dec., 1931), pp. 350-355.

[3] Harry Houston, "Manuscript Writing and Progress in Reading," Elementary School Journal, Vol. XXXIX, No. 2 (Oct., 1938), pp. 116-118.

[4] Flora J. Cooke, "Reading in the Primary Grades," The Course of Study, No. 1 (Chicago: Publication of the Chicago Institute, 1900), pp. 111-115.

[5] San Diego County Reading Study Project Committee, Warren C. Vogt et al. Reading Monograph No. 5 (California: San Diego Dept. of Ed., Feb., 1962).

[6] Gertrude Hildreth, "Early Writing As An Aid to Reading," Elementary English, Vol. XL, No. 1 (Jan., 1963), p. 19.

Fifteen years of development and informal experimentation with an early introduction to the writing of the manuscript alphabet leading to independent writing experiences in the first grade in the Cedar Rapids, Iowa Public Schools has resulted in the publication of the Ginn Elementary English program, Grade 1. This program introduces the manuscript alphabet to first grade pupils on the first day of school. Letters are soon thereafter combined into meaningful one-syllable words. Words are then combined into simple sentences based on real or vicarious experience. Independent writing of compositions is accomplished in three months by many children. In addition, instructional attention is given to an interrelated treatment of the four major areas of communication. During the 1964-65 school year all first grade research teachers in the Cedar Rapids schools used the Ginn Elementary English.[1] Teachers and supervisory observation seemed to point favorably to the manner in which this material served the needs of children in early reading instruction.

This research and classroom practice thus points to a relationship between handwriting and reading and would seem to indicate that further research in this area would be justified.

In summary, the information and rationale in these and similar reports afforded background and motivation for this study which had as its primary purpose the development of methods and materials for teaching the low group first grade pupil to read. Its secondary purpose became the testing of the effectiveness of these methods.

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[1] Those teachers who had used the English materials as part of their research method during the first semester went on to Level Two in the second semester. Those teachers who had not used the Level One materials during the first semester moved their research groups into either Level One or Two depending upon the abilities of the group. During the second semester teachers were instructed to use the English materials during the language period rather than during the reading period.

PROCEDURE: GENERAL

Overview

This study was carried on in the Cedar Rapids Public Schools with the assistance of the College of Education of the University of Iowa. It was one of the 27 supported under a cooperative program, sponsored by the Cooperative Research Branch of the United States Office of Education, Department of Health, Education and Welfare.

Seven methods of teaching beginning reading to low group pupils were investigated in Grade One. Pupils participating in the study were selected on the basis of the results of the Metropolitan Readiness Test, Form A, administered in September, 1964. Fifty-one of a total of 75 first grade teachers were assigned a method irrespective of training, experience, age or any other factor. The methods were assigned so that all economic areas of the school district were represented in each method. Seven or eight classrooms were involved in each method.

During the first week of September a group intelligence test, and two readiness tests were administered to all pupils participating in the project. These tests were the common measures adopted by the Directors of the 27 U.S.O.E. sponsored first grade reading projects.

Adherence to prescribed method was closely supervised throughout the year. In-service meetings to acquaint teachers with the unique features of their method were held at regular intervals. Teachers were observed at least six times during their directed teaching of reading.

During the second semester, after a two-week transitional period, all research groups began work in the same first grade basal reading program (Ginn), with instruction following specially prepared lessons.

The results were analyzed by methods of analysis of covariance in three different phases: 1) A comparison analysis of midyear performance of group means for 11 criterion variables was made to assess the direct results of first semester instruction with Teacher Quality Index, the WISC Verbal and the initial total Metropolitan Readiness September raw score serving as control variables; 2) An analysis of end-of-year group means for the final criterion test adopted by the U.S.O.E. First Grade Reading Research Directors, with the same control variables as used for the midyear analysis; 3) A comparison analysis of a representative sample of 20 pupils from each of the seven methods, whose end-of-year reading performance was subjected to more intensive individual evaluation on measures of outcomes selected to be appropriate to the unique purposes of the project.

Selection of the Seven Methods and Materials

As indicated in the section "Related Research," the selection of the seven approaches used in this study was based on a number of considerations.

1. It was decided that one of the approaches should be a language method involving reading, writing, listening and speaking. As Helen M. Robinson says, "Teaching all the language arts saves time and increases efficiency in the teaching of reading."[1] The Ginn Elementary English materials[2] were selected because of their emphasis on these four major areas of communication. This method was referred to as the Language approach.

2. A second approach was included because of the importance attached to a recognition of the letters and their sounds and the use of context

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[1] Helen M. Robinson, "Teaching Trends in the Language Arts" (Chicago: Scott, Foresman, 1965).

[2] Hale C. Reid and Helen W. Crane, Elementary English 1[1] (Boston: Ginn and Company, 1963).

clues. As William K. Durr states, "These two skills, the ability to use context and the ability to make consonant letter-sound associations, can help the child help himself, starting with his first reading experiences . . . If he is taught to use context together with consonant letter-sounds even before he is required to read words, his initial reading experiences can be more successful and he can develop proper habits of self-help from the very beginning."[1] The reading series published by Houghton Mifflin Company[2] seemed to be the best source material for this purpose. Specially prepared lessons were written, adapted to the low reading group using Getting Ready to Read and Learning Letter Sounds[3] as the main reference. This method was referred to as the Letter-Sound approach.

3. Today, much emphasis is placed upon the importance of a functional approach to reading. It was therefore decided that a third approach should be built around easy-to-read books thus capitalizing upon a basic principle of learning, i. e., we learn by being involved. As Edgar Dale says, 'We can increase transfer by building attitudes favorable to learning. How often do students take a course in which they actively practice being curious and concerned?"[4] Certain titles of the Little Owl series[5] published by Holt, Rinehart and Winston served as the main source of the material used in this method. This method was referred to as the Literature approach.

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[1] William K. Durr, Newsletter (Boston: Houghton Mifflin, Nov.-Dec., 1965).

[2] Paul McKee and Lucile M. Harrison, Getting Ready to Read (Boston: Houghton Mifflin Co., 1962).

[3] Paul McKee and Lucile M. Harrison, Learning Letter Sounds (Boston: Houghton Mifflin Co., 1957).

[4] Edgar Dale, "Principles of Learning," Newsletter (Columbus: Bureau of Educational Research and Service, Ohio State, January, 1964).

[5] Little Owl Series, (New York: Holt, Rinehart and Winston, Inc., 1963).

4. National interest in perceptual development has increased within the past few years. Research such as that by Simpson[1] has led to the consideration that for certain types of children a more direct, concentrated approach to teaching the skills is perhaps necessary. The Continental Press materials[2] do offer such concentrated skills work and for this reason were chosen as the basis of a method designated as the Skills Development approach.

In order to assess the effect of writing on reading achievement, three additional methods were created which would include emphasis on handwriting and independent writing. (Methods II, III and IV taught no handwriting during the first semester.)

5. Method V was a combination of Method I, Language (which included writing), and Method II, Letter Sounds.

6. Method VI was a combination of Method I, Language (which included writing) with Method III, Literature.

7. Method VII was a combination of Method I, Language (which included writing) with Method IV, Skills Development.

In each of Methods V, VI and VII, the equivalent of one reading period each day was devoted to Language and the other to the method with which it had been combined.

Selection of Pupils for Project

In May, 1964, the Metropolitan Readiness Test, Form R, was administered to all kindergarten children as part of an established procedure used for determining reading groups for first grades in the Cedar Rapids schools. In September, 1964, all new pupils entering the schools and all first grade pupils who in May of the kindergarten year had scored on or below the 75th percentile on the Metropolitan Readiness Test, Form R, were also tested with the Metropolitan Readiness Test, Form A. Those pupils falling on or below the 60th percentile on the September Metropolitan Test became eligible for inclusion in a research group.

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[1] Simpson, op. cit.

[2] The Continental Press, Inc., Elizabethtown, Pa., 1958.

In order to justify the existence of a low reading group for this study, the minimum number in a group was set at six pupils and the maximum at 12. In some cases pupils were moved from one room to another within the same school in order to achieve the minimum number for a group. A few children repeating first grade were allowed to work with the low group, but their achievements were not included in the statistics of this study.

Assignment of Teachers to Methods

Although teachers were, for the most part, assigned randomly to the methods, some adjustments were made so that all economic areas in the city might be represented in each method. The following table represents the numbers of teachers assigned to each method as well as the total attrition during the school year.

TABLE 1

Teacher Attrition

Teachers	Methods							
	I	II	III	IV	V	VI	VII	Total
No. assigned to methods in Sept.	8	7	8	7	7	7	7	51
No. remaining in May	8	7	7	7	6	5	5	45
Attrition by method	0	0	1	0	1	2	2	6

Number of Subjects

In the 51 classrooms participating, the average enrollment was 25 pupils, with an average of eight pupils in each of the low reading groups. All 27 of the Cedar Rapids elementary schools had at least one research group. The number of pupils participating at the beginning of the study was 424, though a total of 520 were instructed in research groups during the school year. The number of pupils tested at the end of the first semester was 433, while 309 were a statistical part of the research by the end of the year. Boys accounted for approximately 58 percent of the research population.

Lesson Plans

Special lesson plans were written for all methods by members of the Research Staff.[1]

Time Limits

That time when the teacher is directing the reading activity of the group, including the giving of directions for independent work assignments, is designated in this report as a directed reading period. During the first semester research groups were limited to 35 minutes a day of directed reading instruction. A teacher was permitted to allot this time as she wished. However, it was suggested that as a general rule she plan

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[1] The responsibility for the adaptation and development of materials in the form of specific lessons for each of the seven methods was as follows:

Method I. Helen Crane, Primary Grade Consultant
II. Dr. Louise Beltramo, Associate Professor, Univ. of Iowa
III. Billie Parr, Betty Andrews, Dorothy Bockenstedt, first grade teachers
IV. Anabel Newman, Coordinator of Reading Research Project 2698
V. Dr. Beltramo, Helen Crane
VI. Dr. Beltramo, Helen Crane, Billie Parr
VII. Dr. Beltramo, Helen Crane, Anabel Newman

to have a 20 minute reading period in the morning and a 15 minute period in the afternoon.[1]

During the second semester it seemed more feasible to have 20 minute periods in both the morning and afternoon.

Since the 27 U.S.O.E. first grade reading projects were required to remain within a 140 day instructional period, the Cedar Rapids study began on September 14. The beginning reading programs were terminated January 15, 1965, and the second semester basal reading program began February 8, 1965. The Stanford Achievements were administered May 4-10, 1965, after the close of the 140-day instructional period.

Observations

Observers. During the first and second semesters a regular schedule of observation was followed. Mrs. Anabel Newman, who had had experience as a classroom teacher and remedial reading instructor, was employed to serve full time as an observer and the coordinator of the study.

Mrs. Margaret Wittrig, who had had considerable experience as a classroom teacher and as an elementary school principal, devoted approximately half her time as a second observer for the study.

Purpose of Observing. The purpose of these regularly scheduled observations was to see that the limits of the research were observed. It was the observer's responsibility to acquaint herself with the method to be observed (Mrs. Wittrig observed Methods I, II, V and VI, while Mrs. Newman observed Methods III, IV and VII) so that, when necessary, she could counsel the teacher when corrections were needed or offer suggestions when difficulties arose regarding interpretation of the lesson plans. The observer also made note of the strengths or weaknesses of the lessons and relayed these to the authors of the lessons for the various methods. Occasionally the observer gave classroom demonstrations.

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[1] See Appendix D for complete schedule of Cedar Rapids' weekly time allotments for each subject area.

Procedure. During the year a minimum of six observations was made in each classroom. The observers kept a log of their visitations, endeavoring to keep them evenly spaced and equally distributed between mornings and afternoons. Early in the day the principals were notified when to expect an observer. They, in turn, notified the teachers so that they might schedule their research groups accordingly. Usually the observer did not participate in the class activities but remained inconspicuous throughout the period, even to the extent of refraining from writing notes. Although the observers tried to leave time after an observation for a brief conversation with the teacher, closely scheduled appointments between schools sometimes made this impossible. If they wished, however, teachers could call the research office or the observer at other times during the day.

For the first series of observations a detailed observation sheet was used. During the latter part of the semester, however, a simpler check list was devised. Later still, another check list was composed which would reflect the practices and attitudes during the use of the basal readers. In the observer's report the four major areas considered were: methodology, teacher relationship with this type of child, the learning climate, and child response. Sample copies of these reports can be found in Appendix C.

Teacher Quality Index

Because groups were automatically included in this study in those classrooms having a minimum of six and a maximum of 12 pupils falling on or below the 60th percentile of the Metropolitan Readiness Test, Form A, it was difficult to assign teachers with similar competence to the various methods. Likewise, as mentioned in an earlier section, an effort had been made to represent each economic area of the city in each method, thus further compounding the problem of teacher balance within method. A third factor which needed consideration in teacher assignment to method was that of the 51 teachers originally assigned to the study, six were teaching for the first time.

Thus, to afford the possibility of statistically reconciling the variability among the teachers, a teacher quality index was employed. Since the observers in this study had regularly visited and observed the teaching of a particular method, it was determined that the observer was in the most favorable position to judge teacher competence as measured by general ability, adherence to the method, and rapport with the children. Each observer, therefore, was asked to place a numerical value (using a scale of 1-2-3-4-5 with 1 as high) on each teacher. These values were then reaffirmed or adjusted by the Primary Grade Consultant, and by both investigators, after all observations were completed.

This teacher quality index is hereafter referred to as T.Q.I.

In-Service Meetings

Eight series of in-service meetings were held at regular intervals throughout the year. These meetings, each a half-day in length, were generally conducted in the Central Administration building. A few, however, were held in elementary schools following classroom visitations. Supply teachers (substitutes) were assigned to the classrooms during the absence of the research teacher. This is standard procedure in the Cedar Rapids Schools for in-service meetings of all teachers. These teachers normally attended the same number of meetings, though all never attended the same meeting. In some cases, a meeting included those teachers from the two related methods within the seven investigated in this study.

Usually, a meeting was conducted by the author of the method under consideration. Often, however, other members of the research staff and the central administrative staff were involved. Their purpose was to acquaint the teachers with new materials, explain techniques possibly foreign to them, underline the limits of the research, pass along suggestions and recommendations from the two classroom observers, consider pupil-evaluation and teacher-questions and provide a larger vision of what was being attempted in this study.

At these meetings teachers were asked to indicate where their groups were reading to help them judge pacing in new material. At no time were they ever made to feel that they had to meet a predetermined schedule.

The main purpose of the first September meetings (Sept. 8-11) were to e[illegible] in the methods, purposes and limits of the study. Also during these meetings materials were displayed and explained and new techniques demonstrated. Additional points emphasized were:

1. Allotted time limits of 20 minutes in the morning and 15 in the afternoon were to be carefully observed.
2. Student-teachers were never to teach the research groups.
3. Prolonged teacher-absences were to be reported.
4. Types of independent activities which might reinforce each method were discussed.

5. The teachers were advised to consider art as a creative and communicative activity and thus to avoid having children color teacher-made worksheets unless this procedure was specifically prescribed in the lesson.

6. In six of the methods the teachers were asked to keep a running record on an "evaluation" form, of the effectiveness of various aspects of the method. The teachers of Method I, however, were required to make only one of these reports.

7. The teachers were to teach a lesson each morning and afternoon, if possible, and the materials used were to be reserved exclusively for the children in the research group. They could, if they wished, share a book with the rest of the class; otherwise it was hoped they would have the chance to enjoy that pride of possession sometimes denied low-group children.

The second series of in-service meetings (Sept. 28-Oct. 1) which served primarily to clarify the methods after the initial period of instruction had taken place also dealt with such questions as:

1. Movement of children out of the research group.
2. How much time to provide outside of class for those who did not get the class presentation.
3. What possibility existed for these children to move more rapidly.
4. How to use the evaluation sheets.
5. How substitutes should handle research lessons.

The Cedar Rapids Public School Consultant in Art Education, explained ways in which the teachers of Method VI could use art creatively with first grade children.

The third series of meetings (Oct. 13-15) were held for the combination methods only, Methods V, VI, and VII. Their purpose was to explain how to combine the language program with the other part of the method.

Since music activities had been suggested as possible enrichment work for Method VI, the Cedar Rapids Public School Primary Grade Music Consultant spoke to the teachers in this method.

The fourth series of meetings (Oct. 26-Nov. 2) were then held for Methods I, II, III and IV only. At these meetings, deeper insights into the methods were shared and current perplexing difficulties were discussed.

These included:

1. How can we get them to finish their work and hand in their papers?

2. What do we do with a child who wants to and is able to read the pre-primer?

3. What do we do with those whose results in the Detroit Reading Test indicated they were able to read?

4. How do we handle pupil absences?

Also:

1. Commendation was offered to teachers for their excellent cooperation.

2. Parent reactions were noted.

3. A continuing look at methodology was given.

4. Ways of dealing with the recurrent problem of pacing were worked out.

5. Discussion took place regarding future lessons.

The primary grade music consultant spoke to the teachers of Method III, explaining how music as an enrichment activity could enlarge the depth and breadth of the individual pupils.

As in the second series of meetings, the consultant in art explained ways of creatively including art activities, this time to Method III.

In the Nov. 20-Dec. 4 meetings, all methods once again met. Methods III and VI had an educational consultant for Holt, Rinehart and Winston as a guest speaker. The reactions of children were considered at these meetings:

1. How exact should their knowledge of words be?
2. Should completed books be re-used by children as source books?
3. Should research pupils be permitted to copy or write compositions in those methods where writing was not directly taught?
4. What was the reaction of other children to the research group?

Parent reactions were discussed, methodology was further considered, and an informal survey of how far the groups had progressed was taken.

One meeting (Jan. 7) for the teachers in Method III featured the head of the elementary English department, Holt, Rinehart and Winston as guest speaker.

The February 4 and 5 meetings for all methods were designed to assess the value of the transition period (see PROCEDURE: Second Semester), assess the make-up of the groups at midyear and consider policy on possible retentions. A preview of the second semester basal reading program was also discussed at these meetings.

During the first week in March (March 1-5), an in-service meeting was held following a classroom demonstration at each of five schools, in an attempt to clarify the teaching techniques of the pre-primer program. A week earlier, the teachers who were to conduct these classes met jointly with the research staff to decide upon the ideas and techniques to be stressed.

At the final in-service meetings (May 19-21), meetings designed for evaluation and commendation, the teachers were asked to give, in writing, answers to questions which would indicate their reactions to the year's work. These questions concerned the over-all aims of the methods conducted during the first semester as well as the materials and lesson plans. A similar evaluation was requested for the program followed in the second semester. Those able to do so were invited to give anecdotal information concerning background, home life, classroom deportment, et cetera, of any child who seemed to warrant it. This information was carefully compiled and the results will be given in the evaluation section of this report. (Copies of forms used at this meeting may be found in Appendix C.)

PROCEDURE: TESTING

Testing: Initial Group Tests

In May, 1964, the Metropolitan Readiness Test, Form R,[1] was administered to all kindergarten pupils in the Cedar Rapids Public Schools. The scores from this test were then used to pre-group the pupils for first grade reading. During the first week of September, all pupils whose scores fell below the 75th percentile on the May test and all first grade pupils entering the Cedar Rapids schools for the first time in the fall of 1964 were given the newly revised Metropolitan Readiness Test, Form A.[1] The test consists of six subtests:

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[1] Gertrude H. Hildreth and Nellie L. Griffiths, *Metropolitan Readiness Tests, Form R* (New York: Harcourt, Brace and World, 1949).

1. Word Meaning (16 items)
2. Listening (16 items)
3. Matching (15 items)
4. Alphabet (16 items)
5. Numbers (26 items)
6. Copying (14 items)

From the pupils who scored at the 60th percentile or below the groups for this study were established.

Also during the first week of September, in order to make possible comparisons between the methods employed in the 27 U.S.O.E. first grade reading research projects, the group tests recommended and adopted by the directors of the project were administered.

The tests, including subtest titles, are listed below in the order in which they were given.

Murphy-Durrell Diagnostic Reading Readiness Test (Revised).[2]

Phonemes (Part I - Beginning Consonants): 10 items
Letter Names (Capitals): 26 items
Letter Names (Lower Case): 26 items
Phonemes (Part II - Beginning and Ending Speech Blends): 14 items
Learning Rate: 18 items

Pintner-Cunningham Primary Test, Form A.[3]

1) Common Observation
2) Aesthetic Differences

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[1] Gertrude H. Hildreth, Nellie L. Griffiths, and Mary E. McGauvran, Metropolitan Readiness Tests, Form A (New York: Harcourt, Brace and World, 1964).

[2] Helen A. Murphy and Donald D. Durrell, Diagnostic Reading Readiness Test, Rev. Ed., (New York: Harcourt, Brace and World, Inc., 1964).

[3] Rudolf Pintner, Bess V. Cunningham and Walter N. Durost, Pintner Cunningham Primary Test, (New York: Harcourt, Brace and World, Inc., 1938, 1964).

3) Associated Objects
4) Discrimination of Size
5) Picture Parts
6) Picture Completion
7) Dot Drawing

Thurstone Primary Perception Tests.

1) Pattern Copying: 36 items[1]
2) Identical Forms: 60 items[2]

The tests were administered during both morning and afternoon reading periods and in some instances, in order to complete the tests, pupils were tested during recess and after school.

It had been recommended by the central coordinating office that the Detroit Word Recognition Test[3] be given to all research pupils who could read, or were suspected of being able to read at the beginning of the year. Since, however, the subjects in this study were all members of the low reading group and thus unlikely candidates, this test was not offered to the teachers for administration until October. At this time, on teacher recommendation, 11 pupils attempted the test, with the following results:

N	Grade Equivalent
4	1B
3	1B - 1A
2	1A
2	1A - 2B

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[1] Thelma G. Thurstone, Pattern Copying (Special permission granted by Thelma G. Thurstone for experimental use only in connection with the First Grade Reading Study" sponsored by the Cooperative Research Brance of the U. S. Office of Education).

[2] Thelma G. Thurstone and T. E. Jeffrey, Identical Forms, 1956.

[3] Eliza F. Oglesby, Detroit Word Recognition Test (New York: Harcourt, Brace and World, 1925, 1953).

Testing: Initial Individual Tests

In addition to the group tests, the Wechsler Intelligence Scale for Children[1] test was administered by the psychologists of the Cedar Rapids Special Services Department during the fall semester.

It was hoped that through individual intelligence testing a more reliable measure might be obtained for the pupils. This individual test purports to measure verbal and performance aspects of intelligence. There are five subtests in the verbal section and five subtests in the performance section, which gives a profile of intellectual abilities as well as Verbal IQ, Performance IQ and Full Scale IQ.

The results of the intelligence tests were not made known to the teachers in this project.

Testing: Midyear

Midyear testing extended over a four-day period, January 18-21. Tests were administered in the morning reading periods only. The purpose of these tests was to measure the gain or effect of instruction on *specific* skills taught as well as the possible indirect learnings which may have taken place during the first semester of the study.

Subtests were selected from the September battery of tests, and classified under one of the three main headings of VISUAL PERCEPTION, AUDITORY PERCEPTION and COMPREHENSION. The time element and the overlap of certain subtests made such selection seem desirable. The contents of the midyear tests and the number of sittings allotted to each subtest are listed below. The tests are also listed in the order in which they were given.

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[1] David Wechsler, *et al*. *Wechsler Intelligence Scale for Children*. (New York: The Psychological Corporation, 1949).

VISUAL PERCEPTION (2 periods)
Visual Discrimination: Words and Geometric Forms
(Metropolitan, "Matching")

Copying: Letters, Numbers, Geometric Forms
(Metropolitan, "Copying")

Copying: Geometric Forms and Spatial Relations
(Pintner-Cunningham, "Dot Drawing")

Letter Names: Capital
(Murphy-Durrell, "Letter Names Test")

Letter Names: Lower Case
(Murphy-Durrell, "Letter Names Test")

AUDITORY PERCEPTION (1 or 2 periods)
Auditory Discrimination: Beginning Consonants
(Murphy-Durrell, "Phonemes Test Part I")

Auditory Discrimination: Beginning, Ending and Speech Consonants
(Murphy-Durrell, "Phonemes Test Part II")

COMPREHENSION (1 period)
Listening: Word Meaning in Context and Following Directions
(Metropolitan, "Word Meaning")

Classification
(Pintner-Cunningham, "Common Observation")

Word Associations
(Pintner-Cunningham, "Associated Objects")

Remembering Detail
(Pintner-Cunningham, "Picture Parts")

Because the subtests listed above are parts of standardized tests, the three newly-formed test booklets are not included in this report. Sample items, however, will appear in the discussion of the findings.

Testing: Terminal Group Test

During the week of May 4-7, 1965, at the end of a 140-day instructional period, the Stanford Achievement Test, Form X,[1] with the exception of the arithmetic test, was administered to all children. This test was selected as the group measurement instrument by the directors of the U.S.O.E. projects with the stipulation that such testing be begun within five days of the conclusion of the 140-day instructional period. The parts of the test administered and the order of administration are given below:

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[1] Truman L. Kelley, et al, Stanford Achievement Test, Primary I Battery, Form X (New York: Harcourt, Brace and World, Inc., 1963, 1964).

Word Reading (1st sitting)

Paragraph Meaning (2nd sitting)

Vocabulary (3rd sitting)

Spelling (3rd sitting)

(Note: The option of administering the preceding in two sittings was allowed if necessary.)

Word Study Skills (4th sitting)

Testing: Terminal Individual Tests

As recommended by the research directors, the following oral reading tests were administered after the Stanford Achievement test, to a randomly selected sample of 20 pupils from each of the seven methods. They were administered by two trained examiners in the order listed below.

Gilmore, John V., Gilmore Oral Reading Test, (New York: Harcourt, Brace and World, Inc., 1951).

Gates Word Pronunciation Test

Fry: Phonetically Regular Words Oral Reading Test[1]

Although the examiners had originally intended to administer more than one test at a sitting, it was realized after one day that this approach tended to induce severe frustration in this type of pupil. Therefore, it was concluded that several testings of the same pupil at different sittings would give a more accurate description of the pupil's abilities. The Gilmore Test was, therefore, administered individually to the 140 subjects over the period of one week. During the second week the Gates Word Pronunciation Test was given, and in succeeding days the Fry list was administered.

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[1] Non-standardized test. A copy of this test appears in Appendix A.

Writing Sample

The recommendation of the directors of the U.S.O.E. cooperative first grade reading research projects, to obtain a writing sample from a certain number of pupils in each project, was adopted.

This writing sample was taken from the same 20 subjects whose work was represented in the individual end-of-year tests. It represented approximately 35 percent of the membership of each method. Writing samples were obtained from the pupils in this project during the last week of April, 1965.

Following are crucial excerpts from the general directions for obtaining the writing samples:

1. The writing sample should be obtained from selected pupils in the regular classroom. No attempt should be made to enrich the normal room display through the use of word lists, pictures, dictionaries, etc. The environmental conditions should approximate those normally found in uncontrolled written language tasks.
2. Twenty minutes should be allowed for the purpose of obtaining the writing sample.
3. The writing paper and pencils customarily used in the first grades of the participating schools should be used.

4. Following the writing of the heading or coding, the examiner should say:

> "Boys and girls, today you are going to write a story. You may write a story about anything you wish." No specific titles were presented, and no pictures or other stimuli were to be used.

5. No spelling help should be provided during the writing period.
6. If pupils request spelling assistance, they should be told to try to spell the word and then encouraged to proceed.
7. If the pupil normally uses a simplified dictionary or writes from displayed flashcards, this practice should be allowed.
8. Under no circumstances, however, should the examiner correct misspellings, give ideas, or orally assist the pupil beyond the point of general encouragement.

A second writing sample was obtained using a motivational stimulus familiar to the children. All other writing conditions were the same as in the first sample.

All papers were checked by the local research staff. Papers were scored to obtain three measures: 1) a mechanics ratio scale based on capitalization, punctuation and indentations; 2) spelling; 3) number of words in composition. No attempt was made to evaluate the compositions for originality, content, sentence order, sentence structure and usage.

PROCEDURE: INSTRUCTIONAL PROGRAM (First Semester)

During the testing period from September 1 to 11, and before formal instruction in the methods began, two helps were provided for the teachers: (1) Edward Lear's A Nonsense Alphabet[1] and (2) reference material from David Davis' Patterns in Primary Education.[2] The material, "Skill Treatment of Manipulating Scissors," is divided into six sections designated "instructional experiences." It was felt that use of this material by the pupils in all methods would in no way encroach upon the content of any method, but would give the teachers concrete and pertinent material to use with their research pupils during the reading period until the actual research lessons could begin.

At the onset of the research period, all methods were provided with one or more 8 1/2 X 11 loose-leaf notebooks containing the manuals to be used during the year. Here the teachers filed lesson plans as they were received, and the notebooks made it possible for teachers to keep ongoing communications together in an organized way. These communications referred to administrative procedures of the program and to instructional helps for implementing a specific method. The manuals also included sections for pupil evaluation when this was a part of the method. There was also a section entitled "Whole Program" which contained suggestions about room arrangement which the research staff felt should be made available to all methods.

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[1] Edward Lear, A Nonsense Alphabet (New York: Doubleday and Company, Inc., 1962).

[2] David Davis, Patterns in Education (New York: Harper, Row and Co., 1963), pp. 215-227.

Teacher Evaluation of Lesson Plans

All teachers except the teachers from Method I were asked to submit evaluations of the lesson plans periodically in order to help the writers pace and improve the lessons.[1] The teachers in Method I were asked to submit one such evaluation of the method near the end of the first semester.

Teacher Evaluation of Pupil Progress

Because of the directness of the skills being taught in Methods II, IV, V, and VII a definite evaluation of each pupil's progress in each skill was recording during the first semester.[2] (Methods I, III, and VI did not utilize individual pupil evaluation procedures.)

Method I: Language

Aims and Scope of the Method

The Language Method was included to measure the effectiveness of a structured program in language as beginning reading training for first grade children in the low reading group. The method was adapted from Ginn Elementary English 1[1], Reid and Crane, Ginn and Co., 1963. The program places concentrated emphasis on an early teaching of handwriting as one of the four interrelated skills of listening, speaking, writing, and reading.

The emphasis on writing includes sentence structure, independent composition and proofreading. Oral language includes choral speaking, dramatization, story telling and discussion. These activities are strengthened by direct training in listening, vocabulary development, and usage. Auditory and visual perception of words is reinforced by writing experiences. Throughout the program, the child constantly attaches meaning to the spoken and written word.

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[1] See Appendix C for sample forms which each teacher was asked to submit in evaluation of lesson plans.

[2] See Appendix C also for samples of forms used in evaluating pupil progress.

Description of Basic Materials

The text, Ginn Elementary English, is divided into 64 lessons, which are planned to be taught in the order in which they appear. The lesson plans were rewritten to provide training in skills thought to be, and to some extent known to be, difficult for children in a low reading group. Some lessons were deleted because of the time limits of this study.

The children taught by this method were each provided with a copy of the Ginn Elementary English, the accompanying My Practice Book, and My Picture Dictionary, Reid and Crane, Ginn and Co., 1963.

Description of Contents of Teacher's Manual

A manual of directions, including suggestions, was provided each teacher. The four phases of the program: listening, speaking, writing and reading, are treated in the teacher's manual. Reference to a few of the skills included in each of the four areas is given below.

A child may come to school skillful in the art of hearing only what he wishes to hear. The school environment must therefore be conducive to good listening. Some of the skills emphasized in the lessons on listening included:

1. following directions

2. listening for the main idea
3. listening for specific details
4. listening for specific information:

   who? what? when? where? and why?

5. listening for sequence of ideas

Just as the first-grade teacher must provide for effective training in listening, she must also plan for the development of oral language. The lessons on speaking in this program provided for:

1. dictating oral stories and messages
2. giving explanations
3. reporting messages
4. pantomime
5. choral speaking

It has been demonstrated that it is possible for the six year old to acquire a skill which permits him to express his ideas in writing. The lessons on writing in this program provided for:

1. teaching the lower- and upper-case letters of a manuscript alphabet in approximately the first six weeks through a series of specific lessons
2. teaching of sentence sense, capitalization and punctuation
3. correcting procedures
4. using a picture dictionary
5. independent composition

Because, in the philosophy of this series, reading and writing are closely correlated (the belief being that competence in one area helps to build competence in the other), the lessons on reading in this program receive less emphasis than those on listening, speaking and writing.

General Suggestions to the Teacher. Preceding the actual lesson plans was a sheet entitled "Pointers for Teachers Working With Language Method," which listed seven general suggestions for the use of this method. Among them were class procedure, seatwork, handwriting and evaluation.

The suggestion sheet was followed by the lesson plans which were written according to the following format, or a slight variation: (1) purpose; (2) materials needed; (3) background development; (4) discussing the picture; (5) how to use the page; (6) independent activity. In some lessons it was necessary to delete various items of the format, substituting others which were more suitable.

Additional teaching aids used in this method included:

Alphabet wall cards
Consonant Pictures (#272-1). Chicago: Ideal School Supply Co.
Manuscript letter cards
Teacher-made charts showing standards for listening, speaking, story-telling, safety, and uses for capital letters.

Seatwork activities for independent work were provided on hectographed sheets and from My Practice Book. All seatwork was planned to provide functional practice of skills extending from the lessons.

Lesson Plans:

1. The lesson plan has six steps, most of which are included in each lesson. The steps are:

   (a) Purposes. A listing of the specific skills and concepts, to focus the teacher's attention on the major goals to be accomplished.

(b) Materials Needed. A listing of all materials needed for teaching the lesson (and subsequent independent activities).

(c) Background Development. Suggestions for stimulating interest in the activities to be presented, and for providing readiness for the skills to be taught.

(d) How to Use the Page. A detailed plan for the teacher to follow in presenting the child's page so that maximum benefit can be achieved from the lesson material. This plan provides suggestions for (1) motivating discussion; (2) interpreting pictured material; (3) developing skill in thinking and reasoning; (4) guiding speaking and listening activities; (5) developing handwriting skill, a supportive factor in subsequent written composition and reading achievement; and (6) establishing reasonable methods for evaluation and proofreading.

(e) Related Activities. Suggestions for reinforcement and extension of skills and abilities taught in the lesson. These include oral and written activities, and games and exercises which provide specific practice.

(f) Enrichment Materials. Suggestions of stories, poems, songs and filmstrips that enrich the lesson.

2. Additional and related practice in handwriting is provided through the use of My Practice Book, which supplements the work of certain lessons, and is to be accomplished within the prescribed time limits.

3. A beginning picture dictionary is basic to the method. This picture dictionary makes possible the early acquisition of dictionary skills, and provides a source of reference for words the

child needs in his early reading and writing activities. Its main purpose is to help the child in spelling and writing.

Description of Supplementary Materials

Supplementary literature books which provided enrichment were distributed to each teacher. These included:

Anglund, Joan Walsh. A Friend Is Someone Who Likes You. Harcourt, Brace and World, Inc., 1958.

Garten, Jan. The Alphabet Tale. New York: Random House, Inc., 1964.

Tudor, Tasha. A is for Annabelle. New York: Henry Z. Walck, Inc., 1954.

Method II: Letter Sounds

Aims and Scope of the Method

This method was designed to determine the effectiveness of concentrating the total beginning reading instruction on the association of letter sounds and letter forms for the single consonants, mainly as they appeared at the beginning of a word. A direct approach was employed, providing pupils the opportunity to figure out, under teacher guidance, how such associations are made.

An effort was made to develop the following skills, abilities, knowledge and understandings:

1. Discrimination and remembering of letter forms and word forms.
2. Knowledge of the letter names and their forms, both capital and lower case.
3. Understanding of the printed word form as a counterpart for the spoken word.
4. Understanding the use of the two-forms of each letter, capital and lower-case.

5. Exposure to the manuscript and reading print form of the letter *g*.
6. Exposure to and use of the letters in alphabetical order.
7. Discrimination of sounds represented by the single consonant at the beginning of a word.
8. Understanding of the association of a sound at the beginning of a word with the consonant letters which usually represent it.
9. Mastery of the sound-letter and letter-sound association presented: *d*, *m*, *f*, *g*, *s*, *b*, *t*, *w*, *n*, *p*, *k* and *c*, *j*, *h*
10. Use of the oral context clue with the letter-sound and the sound-letter clues for identifying a printed word, both in practice exercises and teacher read material.

Description of Basic Materials

Although all the 139 lessons were specifically written for this program,certain materials were selected to provide an organized framework, both for the teacher and the children. The study book *Getting Ready to Read*, not only determined the order of development of the sound-letter associations but also provided the pupils with a book of their own as well as a record of their progress. Frequently, the workbook was considered a reference source; that is, the pupils turned to it when they had need to verify the association of a specific sound with its representative written symbol. At other times, it was used for practice-type exercises. A second study book, *Learning Letter Sounds*, was used for additional practice.

Picture cards were valuable for providing a record of spoken words, for rearranging the order of spoken words, for manipulating the choice of words, for purposefully varying the activity, for allowing a pupil to depend upon his own pronunciation, and for bringing the meaning of a word to a conscious level.

Four sets of green letter cards (3" x 4"), two sets for lower case letter forms and two sets for capital letter forms of all consonant letters, were used for visual discrimination training (both for simultaneous and consecutive matching), for learning the letter names and for visually associating lower-case and capital letter forms. Vowel letters were printed on pink cards and, along with the green consonant cards, were used for activities involving the alphabet.

Three trade books were used as continual reference: from the time the pupils began the discrimination of beginning sounds in words to the discovery of specific sound-letter associations. Dr. Seuss' ABC was especially helpful for listening to many words beginning with the same sounds and then noting the relationship to a letter. The ABC Hunt and Brian Wildsmith's ABC were useful for noting the beginning letter of a word and realizing its association with a sound. All three books gave practice in reading letter names and in exposure to alphabetic sequence.

Large (24" x 36") colored oaktag charts were developed for each sound-letter association. The pictured words were drawn from many sources with most of the pictures made by the pupils. As each new level of knowledge was acquired a record was made by adding this information to the chart. For more efficient use of the information on the charts, they were organized in book form following an alphabetic order. Each chart was tabbed on the right hand side, with the appropriate printed letter on the tab. This served the same purpose as a thumb index.

A bibliographic listing of basic instructional materials is as follows:

Books.

Geisel, Theodor S. Dr. Seuss' ABC. New York: Random House, Inc., 1963.

Gordon, Isabel. The ABC Hunt. New York: Viking Press, 1961.
McKee, Paul and Harrison, M. Lucile. Getting Ready to Read, Pupil's Edition. Boston: Houghton Mifflin Co., 1962.
______. Getting Ready to Read, Teacher's Edition. Boston: Houghton Mifflin Co., 1962.
______. Learning Letter Sounds, Pupil's Edition. Boston: Houghton Mifflin Co., 1963.
______. Learning Letter Sounds, Teacher's Edition. Boston: Houghton Mifflin Co., 1963.
Wildsmith, Brian. ABC. New York: Franklin Watts, Inc., 1963.

Instructional Aids.

Picture and Key Cards for Reading for Meaning Series, Third Edition. Boston: Houghton Mifflin Co.
3" x 4" green cards for consonant letters, 2 sets with capital letters and 2 sets with lower case forms
24" x 36" colored tagboard charts, 14 charts

Description of Supplementary Materials

Some references were used for their accurate, concise and meaningful theoretical information of how specific letter sounds are formed. In some instances this information was written into the lesson and in other instances it was presented to the teacher in pamphlet form.

Sources used were.

Making the Consonant Sounds. (Pamphlet). Boston: Ginn and Co.
Scott, Louise B. and Thompson, J. J. Talking Time. St. Louis: Webster Publishing Co., 1951.

Sources were also used to provide additional, and sometimes optional, exercises and activities for practice in auditory discrimination, visual discrimination and association of sound and letter.

Books for Practice Ideas.

Hurd, Gwendolyn M. and Rimmel, Erma L. Preparing your Child for Reading. Boston: Houghton Mifflin Co., 1961.
McGinley, Phyllis. The B Book. New York: The Crowell-Collier Press, 1962.

Instructional Aids for Practice.

magazines
word cards (examples of words beginning with specific letter-sound association)
Illustrations prepared by the pupils
pupil's name cards
replicas of license plates

Games and devices were developed or procured commercially for practice of skills and for giving the pupils an opportunity to demonstrate, to themselves and to others, their power and understanding of the skills. These were selected because of their long term use or because of their adaptability for including practice of more than one skill.

Games.

Letto (a letter game). Boston: Houghton Mifflin Co.
Little Letto (a simpler version of Letto).
Phonetic Quizmo (a sound-letter game). Springfield, Mass.: Milton Bradley Co.
What the Letters Say (a sound-letter game). Champaign, Ill.: Garrard Publishing Co.

Devices.

8 1/2" x 11" pocket charts
8 1/2" x 11" charts for each sound-letter association (prepared by each pupil)
bulletin boards and paper bags (for organizing materials)

Narrative selections and other graphic materials were developed or purchased for using the skills with context clues. In many instances teachers selected appropriate literary selections from their classroom libraries.

Books for Context Clues.

Hurd, Gwendolyn M. and Rimmel, Erma L. Preparing Your Child For Reading. Boston: Houghton Mifflin Co., 1961.
Spooner, Jane R. Tony Plays with Sounds. New York: John Day Co., 1961.

Graphic Materials for Context Clues.

Can labels, food boxes or containers
Signs (outdoor and indoor)
Pictures (which elicit stories containing many words beginning with the same sound-letter associations)
Riddles

Lesson Plans

Most of the daily lesson plans provided for initial group participation in the learning situation followed by individual learning activities. In some instances, the reverse order was followed. Each lesson was, therefore, organized under the main divisions, Group and Individual.

The first time an instructional procedure was used a very detailed description was written into the lesson with reference made to this lesson when the same procedure was used again. When considered of importance, teachers were specifically informed as to instructional learning or reading principles to follow, to level of performance they might expect, to likely difficulties pupils might encounter, and to suggestions which might prove helpful in these problem situations. This was usually done by enclosing the text in parentheses or by writing the complete text in capital letters at the exact place in the lesson where the information might prove to be most useful.

Each time a new sound-letter association was introduced the initial lesson included a detailed description of how the sound was formed, of the most common difficulties encountered in producing the sound, of the letter sounds auditorially very similar, and of the letters visually similar. Attention was given to both sound-letter and letter-sound associations. Many learning experiences were developed for attempted mastery of these associations. In addition, review lessons were spaced throughout the program. Eighty-three lessons dealt specifically with the direct teaching and review of thirteen sound-letter and letter-sound associations.

For the pupils, a definite effort was made to gradually build a background of knowledge; to provide a visible plan for organization of their knowledge; and to place them in a learning environment conducive to independence and to perceiving relationships and making generalizations with less and less teacher direction.

Typical instructional development for learning a letter-sound association started with knowledge of the child's ability to make the sound and to discriminate the sound from other sounds.

Many practice experiences were then included before the children turned to the workbook to demonstrate their achieved abilities to discriminate beginning sounds. Words accumulated during the practice period were organized on large charts as well as on pupil made charts. Noting signs in the environment and listening to, repeating, and seeing texts containing many repetitions of words beginning with the same letter led to an awareness of sound and letter association. This association was verified through the workbook, Getting Ready to Read, and practiced in Learning Letter Sounds, and further reinforced by adding appropriate words to the pictures on the large chart. Planned experiences were then provided for using this acquired skill and knowledge.

Teacher Preparation

Instructional material sheets listing the lessons in consecutive order, similar to a table of contents, provided each teacher with a concise list of materials needed in the teaching of each lesson. Materials were listed in the order of their presentation. Starred items designated teacher prepared materials and indicated that preparation should be made a few days before teaching the lesson. About one-tenth of the instructional materials were actually prepared by the teacher.

Work Assignments

Structured individual assignments (usually referred to, by both teacher and pupils, as work assignments and/or study sheets) were designed to follow a session of group instruction for one or more purposes. They were to provide immediate reinforcement of new learnings, practice of a currently emphasized skill, maintenance of learnings through a planned review schedule, or use of knowledge or skills acquired. In those instances where individual activities preceded the group session, attention was centered on: assessing the pupil's understanding and knowledge prior to study; on providing for exploratory thinking; or on allowing for preparation of materials by the pupils to be used for group instruction.

Whenever it was deemed appropriate, pupils were informed as to the purpose of the assignment. For example, pupils might be made aware of the fact that through working together they were reacting as a group. In the work assignment each individual would have an opportunity to find out how he would really answer if he could do all the thinking and talking in the group.

To provide a wider variety and more personal selection of pictured words the pupils frequently drew their own pictures to represent a word. In illustrative work an attempt was made to follow accepted art practices.

A selected group of procedures were frequently reused to free the pupils to work independently, with little if any teacher guidance, and to try to help the pupils relate similar types of knowledge.

In order to use many pictures or letters or words on a single sheet, pupils were trained to use markers to help them focus attention on a single item or a specific area of the page.

Knowledge for 14 sound-letter associations was organized through the development of individually prepared books in which each pupil continually made entries as new information was presented.

The assignments included such things as:

1. Matching letters with letters and letters with words.
2. Removing letters from sight before matching with another letter

or word.

3. Underlining within running text words beginning with the same letter.

4. Drawing pictures for favorite words, new words, words with new meanings, words which complete sentences.

5. Making small copies of such pictures for the large group charts.

6. Underlining pictures, the names of which begin with the same sound.

7. Assembling accumulated pictured words on charts.

8. Sorting pictures into labeled envelopes.

9. Designating written words by selecting the appropriate pictures from a group of pictures.

10. Making illustrations on the blackboard for words beginning with a specified letter.

11. Examining books, especially ABC books, picture dictionaries and books containing large pictures with little written text.

Pupil Evaluation

The lessons in the program were divided into three long units followed by two shorter units. At the end of each of the first three units an evaluation lesson provided for group and individual review of the material covered. Each pupil's responses to the individual evaluations, which were in the form of study sheets, were recorded on a tabulation sheet. These results were brought to in-service meetings in order that each teacher might have a more comprehensive basis for noting the progress of her pupils by comparing them with other groups. In addition, the results for all groups were compiled and this information gave some direction to the development of subsequent lessons. All evaluation lessons and evaluation study sheets were printed on a different color from the regular lessons so that they would stand apart for easy reference.

Evaluation lessons were followed by a review period that provided an opportunity for the teacher and pupils to further develop any skill or principle presented in the unit. In many instances the suggestions were varied enough to allow the teacher to select the most appropriate activities for the group. If all the pupils seemed to have progressed in a satisfactory manner, a story book, containing a goodly number of words beginning with the sound-letter associations studied, was read to the group with the pupils supplying some of the words from oral context and sound-letter or letter-sound associations.

The last lesson, which covered two or three learning sessions, provided for a review and ordering of the learning acquired in the five units. A comment such as the following opened the directed discussion: "Since the beginning of first grade we have been learning many things about words. Now, we are reading more and more words in books. Have you ever thought about all the things you know about words? . . . I've been thinking about it. I thought it might be a good idea and also very interesting for each one of you to think about all you know. Some of these things I'm sure you didn't know when you first came to first grade."

Method III: Literature

Aims and Scope of the Method

In using literature for beginning reading, it was intended that through meaningful experiences with good literature, the pupils would develop an appreciation of the written word as well as an awareness of the reading process. The literary and artistic quality of the material used provided also the opportunity for development of the appreciation of aesthetic qualities. Together, these goals were intended to develop a positive attitude toward books and reading and individual expression of creativity.

In addition to the general aims, the lessons were constructed to develop specific reading skills and knowledge through structured exposure. These include:

1. experiences in the physical handling of books
2. familiarity with the parts of a book: title, title page, author, illustrator, page numbers, etc.
3. experiences in oral language communication with emphasis on story-telling
4. experiences with written language, becoming aware of sentence structure, punctuation, letters of the alphabet
5. development of comprehension through picture reading, listening, reading, discussing, and dramatization
6. development of auditory and visual perception, including consonant sounds, pronunciation of words, rhyming words, color identification, noticing details, etc.
7. widening of environmental knowledge

Description of Basic Materials

As the aims of this method call for the use of books of high literary and artistic quality in an easy-to-read form, the Little Owl series published by Holt, Rinehart and Winston was selected. These books are delightfully illustrated, are well written, and are of a size which can easily be handled by small children.

Some of these books are designed for picture reading; others have a simple vocabulary and provide for read-aloud experiences. Some of the books offer teachers and pupils the opportunity to connect the structure of the spoken language with the structure that is found on the printed page. The illustrations and the structured language patterns tend to make easier the development of reading. The scope and sequence of the material requires the pupil to go beyond the obvious in the making of inferences, scrutinizing pictures for their subtle meanings, and reacting to their content through a communication of ideas.

Books. Of the forty books included in the *Little Owl* series, 25 were selected for basic material. Five of these were books without words[1]

Mr. Jolly's Sidewalk Market (Laura Jean Allen, Illustrator)
The Great Circus Parade (Evelyn Malone Curro, Illus.)
Birds in Wintertime (Allen Eitzen, Illus.)
A Cat Story (Elliott Gilbert, Illus.)
Tulips (John Peterson, Illus.)

Twenty books with words were used:

The Three Billy Goats Gruff (Susan Blair, Illus.)
Daddy Is Home! (David Blomquist)
Let's Talk About the World (Carole Kofod Butterfield)
One, Two, Three, Four (Kate Considine and Ruby Schuler)
The House That Jack Built (Donald E. Cooke, Illus.)
The Old Woman and Her Pig (Donald E. Cooke, Illus.)
The Sun Is A Star (Sune Englebrektson)
Five is 5 (Howard F. Fehr)
Captain Murphy's Tugboats (William Hall)
Good Night, Mr. Beetle (Leland B. Jacobs)
Baby Elephant (Patricia K. Miller and Iran K. Seligman)
Big Frogs, Little Frogs (Patricia K. Miller and Iran K. Seligman)
To Know a Tree (Thomas M. O'Brien)
Three Little Dachshunds (Margaret G. Otto)
Good Morning, Mr. Sun! (John and Catherine Polgreen)
What Is Pink? (Christina G. Rossetti)
Round Is A Pancake (Joan Sullivan
Ten Pennies for Candy (Henry Ritchet Wing)
What Is Big? (Henry Ritchet Wing)
Going Up, Going Down (H. R. Wittram)

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[1] All books in the Little Owl Series were published by Holt, Rinehart and Winston (New York) in 1963.

As it did not seem necessary for a copy of each book to be provided for each pupil most of the books were provided on the basis of one per classroom. However, it was felt that the pupils in the study should also have the experience of personal possession and responsibility for books. The lesson plans included taking certain books home to be read to parents or to be shared with a friend. Therefore, seven books of the Little Owl Series were provided on the basis of one per pupil. These books were as follows:

Daddy Is Home! (David Blomquist)
One, Two, Three, Four (Kate Considine and Ruby Schuler)
A Cat Story (Elliott Gilbert)
Good Night, Mr. Beetle (Leland B. Jacobs)
Big Frogs, Little Frogs (Patricia K. Miller and Iran L. Seligman)
Tulips (John Peterson, Illus.)
Round Is A Pancake (Joan Sullivan)

As the specific aims of this method included needs which could not be met by any of the Little Owl Series, five other books were selected to provide material for these needs, and were distributed on the basis of one per classroom. These books were as follows:

Cameron, Polly. "I Can't," Said the Ant. New York: Coward-McCann, Inc., 1961.
Ets, Marie Hall and Labastida, Aurora. Nine Days to Christmas. New York: The Viking Press, 1959.
Garten, Jan. The Alphabet Tale. New York: Random House, Inc., 1964.
Geisel, T. R. Dr. Seuss' ABC. New York: Beginner Books Division of Random House, Inc., 1963.
Moore, Clement C. Night Before Christmas. New York: Random House, Inc., 1948, 1960, 1961. Illustrated by Grandma Moses.

Devices. Several lessons were written around the use of materials other than books. It was necessary, therefore, to include in the basic materials, the following devices:

Kaleidoscope
Flannelboard
Tulip bulbs
Artificial tulips
Calendar for a year

Thompson, Elizabeth. Reading Readiness Picture Cards, ("TELL"). Chicago, Illinois: Beckley-Cardy Co.
See-Quees, Sequence Story Boards, "Tulip" and "Frog." Minneapolis, Minnesota: The Judy Co.
Consonant Pictures (No. 272-1). Chicago: Ideal School Supply Co.

Description of Supplementary Materials

In order to provide enrichment beyond that established in the basic materials, many supplementary materials were recommended for use with the lessons. These materials fell into the categories of (1) books, (2) art materials, (3) records, (4) games and devices.

Books. Among the books used as supplementary materials, there were four from the Little Owl Series:

Children of the World Say, "Good Morning." (Herbert McClure)
Poems for Counting (Robert M. Quackenbush, illus.)
Poems for Galloping (Robert M. Quackenbush, illus.)
Poems for Weather Watching (Gilbert Riswold, illus.)

Several other books were provided for each teacher for use as supplementary material. They were:

Budney, Blossom. *A Kiss Is Round*. New York: Lothrop, Lee and Shepard Co., Inc., 1954.
Hubbard, Freeman (Narrator). *Great Days of the Circus*. New York: American Heritage Publishing Company, Inc., 1962.
The Circus. Milwaukee, Wisconsin: An Ideals Publication, 1961.
Jacobs, Leland B. *Just Around the Corner*. New York: Holt, Rinehart and Winston, Inc., 1964.
O'Neill, Mary. *Hailstones and Halibut Bones*. Garden City, New York: Doubleday and Company, Inc., 1961.
Scott, Louise Binder, and Thompson, J. J. *Rhymes for Fingers and Flannelboards*. St. Louis, Mo.: Webster Publishing Company, 1960.
Zim, Herbert S., and Gabrielson, Ira N. *Birds*. New York: Golden Press, 1949, 1956.

Books which were standard material in all first grade classrooms were also utilized as supplementary material. These include:

Arbuthnot, May Hill (Editor). *Time for Fairy Tales*. Chicago: Scott, Foresman and Company, 1953.
______. *Time for Poetry*. Chicago: Scott, Foresman and Co., 1959. (Previous, 1951).

Berg, Richard C., Burns, Claudeane, Hooley, Daniel S., Pace, Robert, and Wolverton, Josephine. *Music For Young Americans*, *Book One*. New York: American Book Co., 1959.
Crowninshield, Ethel. *The Sing and Play Book*. Boston, Massachusetts: The Boston Music Co., 1938.
Ewoldt, Lovella (Compiler). *Finger Plays, Action Songs and Original Songs*. Cedar Rapids, Iowa: Cedar Rapids Public Schools, 1964.
Neilson, N. P., and Van Hagen, Winifred. *Physical Education for Elementary Schools*. New York: A. S. Barnes and Co., 1929, 1930, 1932, 1954.
Reid, Hale Co., and Crane, Helen W. *My Picture Dictionary*. Boston, Massachusetts: Ginn and Company, 1963.
Wild, Monica R., and White, Doris E. *Physical Education for Elementary Schools*. Cedar Falls, Iowa: Iowa State Teachers College, 1924, 1949, 1950, 1954.

Several additional *Little Owl* books were supplied to the teachers without specific directions for use. The teachers used them only as they felt their pupils would derive benefit from them, and as time permitted with the individual groups. These books included:

A Day With My Pets (Gloria Gaulke)
Old Mother Goose (Frank Haines, Adapted by)
Let's Take A Walk (Aaron Heller, Designer, and Robert Deschamps, Illus.)
At Home On The Ice (Patricia K. Miller and Iran L. Seligman)
Joey Kangaroo (Patricia K. Miller and Iran L. Seligman)
The River (Aldren A. Watson)
Here Comes Jimmy, Here Comes Jimmie's Dog! (Harry Randolph Wayne)

Other books which were suggested for supplementary materials, but which were optional, and were to be procured by the teacher if desired, were:

Brown, Marcia (Editor). *Three Billy Goats Gruff*. Harcourt, Brace and World, Inc., 1957.
Darby, Gene. *What Is A Tree*? Chicago: Benefic Press, 1957.
Frederico, Helen. *The Sunshine Book*. New York: Golden Press, 1965.
Newberry, Clare Turlay. *April's Kittens*. New York: Harper and Row Publishers, Inc., 1940.
______. *Percy, Polly, and Pete*. New York: Harper and Row Publishers, Inc., 1952.
Podendorf, Illa. *The True Book of Trees.* Chicago: Children's Press, 1954.
Radlauer, Ruth Shaw. *About Fathers at Work*. Chicago: Melmont Publishers, Inc., 1958.
Schlein, Miriam. *Shapes*. Eau Claire, Wisconsin: E. M. Hale and Co., 1952.

Schneider, Herman and Nina. *How Big Is Big?* New York: William R. Scott, Inc., 1946.
Steiner, Charlotte. *My Slippers Are Red*. New York: Alfred A. Knopf, Inc., 1957.
Ward, Lynd. *The Biggest Bear*. New York: Houghton Mifflin Co., 1952.

Art Materials. Because the children of this method were guided to express themselves creatively, they were given the opportunity to work with a great variety of art media. They were encouraged to work creatively with any medium which they could manipulate. The art materials supplied were:

Crayons
Water colors
Tempera paint
Colored chalk
Finger paint
Clay
Old magazines
Felt tipped pens
Construction paper
Poster paper
Drawing paper
Manila paper
Finger paint paper
Paste
Scissors

Records. In some lessons, records were used as a method for laying background and developing concepts. In other lessons, the records were used as extended and enriching activities. Records suggested were:

Berg, Hooley, Pace, Wolverton and Burns. *Music for Young Americans* (BM-1, Album for Book One). New York: American Book Co.
"Bozo at the Circus" (EPEAXF3033). New York: Capitol Records.
"The Circus Comes to Town" (#713, 78RPM). New York: Young People's Records.
Pitts, Glenn, Walters, and Wersen. "Circus Day," The First Grade Book and Album (Album 1B, Record 6a). Boston: Ginn and Co.
"Rhythmic Activities" (E73). New York: RCA Victor.
"Singing Games" (E-87). New York: RCA Victor.

Games and Devices. From time to time, miscellaneous devices were used for emphasis and enrichment. Included were:

Individual Bulletin Boards (12" x 18"), 1 per child
Large Bulletin Boards
Charts
Sentence Strips
The "take home book" (a loose-leaf notebook filled with plastic folders into which could be inserted the children's work)

Contents of the Teacher's Manual

A. General Suggestions to the Teacher. In this section, suggestions were made which were pertinent only to the literature method.. Both the pupil's and teacher's use of books was discussed, and specific directions were given to the teacher for the successful use of the lesson plans.

Books for teacher reference and use were listed, including both those which were standard equipment in each first grade room, and those which were supplied to each teacher in the study.

The scheduling of class time, an important aspect of the program, was explained in detail. The direct relationship of independent activities to the lesson was explained, and it was recommended that these be used rather than other seatwork activities. The time spent in independent activities was not to be included in the 35 minutes per day.

Child and group evaluation techniques were discussed. Four suggestions were given for evaluation:

1. Have individual children whisper answers in the ear of the teacher. This allows the teacher to check on understandings through the "secret" approach, which children love. It discourages one child depending upon another.
2. Reference by individual children to cards, objects, charts, etc., in an informal and enjoyable setting will enable the teacher to evaluate skills and concepts. It is suggested that each teacher develop in her group a "family" feeling so that each child will feel free to express himself and not feel self-conscious when his answer is incorrect.
3. Evaluation of independent activities provides for the children

opportunities for oral language development.

4. A form of evaluation of literary appreciation, in general, requires the teacher to note what types of activities the children choose during their free time, whether or not these activities are related to the learnings and appreciations developed during the class period.

As some of the lessons were based on poems, and poetry was often recommended for supplementary use with the reading group, suggestions were made for its use. The teacher was encouraged to freely share her favorite poems with the pupils and to use any poems of good literary quality the pupils would enjoy. It was suggested that poems which are favorites be committed to memory. However, as the main goal of this pre-reading approach was for literary appreciation, all pupils were not expected to know each poem by memory, as each child's interests vary. Each child was to be encouraged to memorize a few poems, but there was to be no pressure put on the child.

"Our Sharing Book" (also referred to as "Take Home Book") was discussed, giving directions for its use. Each teacher and group using this method had a looseleaf notebook with plastic envelope pages so that each pupil in the group could have one page in which to place his completed activity when the lesson lent itself to this type of sharing. The children took turns in taking the book home to be shared with their families. It was intended that this would help foster a closer educational relationship between school and home, children and parents.

B. Lesson Plans. Each lesson was designed to be taught during one class period. Therefore, two lessons were used by the teacher each day, one in the morning and one in the afternoon. Structured lesson plans were written for each book used. For some books only one lesson was written; for others, the number of lessons varied from two to six. A table of contents was prepared for the first 55 lessons, listing the books for which they were written.

A basic format was developed for the lesson plans, as follows:[1]

Lesson Number __

Title of Book
Purpose of Lesson
Skills to be Developed
Vocabulary
Introduction
Reading and Interpretation
Development of Skills
Enrichment Activities

(When more than one lesson was written for a given book, "Reading and Interpretation" and "Development of Skills" would not appear in the same lesson. Frequently "Development of Skills" would extend through several lessons.)

A total of 119 lessons were written. Included in these were several review lessons which gave the children the opportunity to indicate their favorite books, provided the teacher with an opportunity to gain insight into the children's reactions, and reviewed learnings and skills.

Each lesson provided creative independent activities, giving the child the opportunity to express himself and to become acquainted with a variety of materials. The independent activities immediately followed the class session.

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[1] See Appendix B for sample lesson plans.

C. Teacher Preparation. In this section the teacher was alerted to the need for preparation of materials that would be used in teaching the lessons. Each lesson number was listed, and under it were listed the materials needed, including specific directions for their use. Instructions were included for the development of bulletin boards, charts, flannelboard teaching aids, word and sentence strips, children's art and independent seatwork activities.

Method IV: Skills Development

Aims and Scope of the Method

This method was devised to determine how far and how quickly, through a program of selected skills, a group of low-level first grade children could be advanced toward readiness for reading. The inception of the program evolved from the work of the Cedar Rapids School psychologists who often identified lack of perceptual skill as a middle grade difficulty. This approach did not involve attaching a spoken referrant to a written symbol (letter or words), but dealt instead with the development of certain skills (rhyming, visual discrimination, visual motor, thinking skills, and beginning sounds) deemed essential to a successful reading experience by many educators and psychologists. Aside from the initial six-weeks instruction in letter-formation (training given uniformly to all Cedar Rapids first graders at the beginning of the school year) the pupils in this method received no further writing instruction until the second semester.

Description of Basic Materials

This method was based on selected Continental Press materials[1] (made available through spirit duplicating masters) which it was hoped would systematically aid in developing these five skills: Visual Motor Skills, Visual Discrimination Skills, Beginning Sounds, Thinking Skills, and Rhyming. With these materials, each of which is divided into two levels of difficulty, Continental Press provides a set of instructions.

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[1] The Continental Press, Inc., Elizabethtown, Pa., 1958.

When expansion of the ideas presented in the Continental Press materials seemed necessary, supplementary worksheets were developed by the research staff. For example, the Visual Motor worksheets proved overly difficult for many of the children. Therefore, 41 additional worksheets were prepared which simplified the task supplied by Continental Press.

Description of Supplementary Materials

The teachers were also furnished the following aids with instructions as to their use:

Bresnahan, Dr. M. Marie, and Pronovost, Dr. Wilbert L. *Let's Listen*. Auditory Training for Speech Development and Reading Readiness. Boston: Ginn and Company. (As a help with beginning sounds.)

Eichenberg, Fritz. *Ape in a Cape*. New York: Harcourt, Brace and World, Inc., 1952.
(Used to reinforce the work in rhyming.)

McIntire, Alta and Hill, Wilhelmina. *Working Together*. Chicago: Follett Publishing Co., 1959.
(A social studies text used in teaching one section of thinking skills.)

Schoolfield, Lucille D. *Better Speech and Better Reading*. Magnolia, Mass.: Expression Co., 1951.
(Supplement to understanding rhyming.)

Steiner, Charlotte. *Good Day, Which Way?* New York: Alfred A. Knopf, Inc., 1960. (For use with visual motor activities.)

Thompson, Elizabeth. *Reading Readiness Picture Cards.* ("LOOK," "HEAR," "TELL.") Chicago: Beckley-Cardy Company.
(To support work in rhyming, visual discrimination, and thinking skills.)

Individual lapboards were furnished for each child to use in the reading group when completion of worksheets was specified as a group activity.

Contents of the Teacher's Manual

A. General Suggestions to the Teacher. In this section a variety of techniques was submitted to the teacher as a help in implementing this reading method. It was explained how she could systematically gauge and schedule her classroom time, as well as how she might keep records concerning the handling of absentees and the pretesting and post testing of the skills. A procedure for correcting completed worksheets was outlined as well as suggestions on ways of reusing them in the classroom. (One method proposed was to have the teacher cut pictures from the worksheets and paste them on stiff paper. She could then organize these according to specific teaching situations.) The use of provided large manilla envelopes was advised as a means of keeping pupil's worksheets in order. (For example, two of these envelopes could be glued back to back with one side for completed sheets and the other for those yet to be done.)

It was strongly urged that the teacher make clear to the pupil the relative significance of such opposite terms as "left and right," "alike and different," "big and small," and so on. Especially was this important when engaged with thinking skills.

In working with books or printed matter (such as worksheets) it was recommended that each pupil use a marker, usually a narrow piece of cardboard or stiff paper, as a guide in underlining or isolating a specific field of discrimination. A page containing many figures or words was sometimes confusing to the pupil.

The reinforcing technique of having a student explain a process while performing it (for example, the reproducing of a visual motor design) or having him describe the process after finishing it, was suggested.

Particularly was the teacher encouraged to make notes, writing them down in class if necessary, of any comments or acts by the child which would indicate his degree of interest in the process of reading.

B. Lesson Plans.

Master Schedule

A single-page schedule outlined how all Level I materials might be completed in a seven-week period.

Weekly Schedule

Briefly written daily lesson plans were arranged in a five-day format. As the teacher opened the manual these plans for the week appeared on the left. On the right was a sheet similarly divided but left blank. Here the teacher was to write brief comments concerning the lesson's particular strengths or weaknesses.[1]

Each lesson indicated which seatwork and other materials were to be used on certain days. If a concept within a lesson needed expansion, the teacher was referred to the section of specific suggestions appearing at the beginning of the treatment of each skill.

In working out the weekly schedule an attempt was made to present the skills in their order of difficulty while avoiding the concurrent development of those with related content. For example, first grade pupils often have difficulty distinguishing beginning sounds and rhyme endings. Therefore, Rhyming (Level I) was scheduled for completion before Beginning

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[1] See Appendix C for sample evaluation sheet.

Sounds (Level I) was introduced.

During the first seven weeks, lists were prepared indicating the materials needed each week.

The next five sections (C, D, E, F, G) concern the five skills upon which this teaching method is based. Each section in the manual contained a teacher's checklist of goals within a skill; a group of specific suggestions on how to implement the skill; a bibliography of books, records, leaflets, and other reference materials; and copies of the twenty-four Level I worksheets as well as the Level I and Level II teacher's guides prepared for each skill by Continental Press. (Because of space limitations, copies of the worksheets for Level II were placed in a second notebook.)

Some, but not all, of these five sections contained filler material (i.e., material that could be used at odd times when occasion permitted but was not prescribed in the lesson); seatwork suggestions; supplementary worksheets prepared by the research staff as an addition to the Continental Press worksheets; a general presentational method to be used when presenting beginning sounds; and helpful teaching techniques quoted at length from sources generally unavailable to the teacher, such as passages from Grace M. Fernald's Remedial Techniques in Basic School Subjects (New York: McGraw Hill, 1943), and The Frostig Program for the Development of Visual Perception by Marianna Frostig and David Horne (Chicago: Follett Publishing Co., 1964).

C. Rhyming. Level I lessons in rhyming introduced the skill through auditory experiences. These gradually developed the pupil's ability to indicate which of six pictures on a worksheet rhymed with the key picture. Key pictured words included were: "tree," "can," "chair," "bat," "bed," "hen," "rose," "pies," and "clocks." Three other approaches through pictures were used as aids to increase the pupil's aural perceptivity in the area of rhyming. Work with this skill tended to expand the pupils' comprehension and vocabulary in that they were required to think about the meanings of words as they chose the rhyming word. For example, in the section on "Riddles in Rhyming" (Level I, p. 11) "I rhyme with bent. People use me for camping." (Tent) When instruction was completed the pupils were tested at each level.

D. Visual Discrimination. The visual discrimination tasks first provided practice in discriminating similarities between simple objects and between designs. Later the pupil was expected to notice similarities in more complicated designs; to observe differences in form, size, kind, internal detail and direction; to recognize reversals. Finally he was exposed to actual letter forms and then words. This latter also included such nonsense letter groupings as " hrsm" as differentiated from "hrsn." However, since the aim of this method excluded the actual reading of words, no attempt was made to teach the association of the written symbol with the spoken word.

Some of the worksheets provided experience in overcoming the familiar problem of reversals, such as the frequent mistake of considering alike the word-forms "SAW" and "WAS" or "NO" and "ON," and the letter-forms "b" and "d" or "p" and "b."

E. Visual Motor. Visual Motor Skills provided practice in developing those skills which are considered fundamental to word retention, writing, and spelling; that is, those that require a fine degree of visual discrimination, eye-hand coordination, and perception in figure and space relationships. The tasks involved tracing a design, completing a design whose solution is suggested in part by the format of the worksheet, continuing a partially completed sequential design, determining sequences through reasoning and visualization, and many others.

F. Beginning Sounds. The materials in this section offered opportunity to develop auditory perception of the beginning consonant sounds. Speech blends were not considered. Teachers were given instructions in how to make "Beginning Sounds" charts using both supplementary material and worksheet pictures. (During the semester, as these charts took shape, it became necessary to caution teachers against placing letters on the charts. Such a practice, though a natural part of their previous teaching of beginning sounds, did not stay within the limits of this method, which specified there should be no association of sounds and letters.)

The Ginn and Company pamphlet, Making the Consonant Sounds, was included as an additional aid.

G. Thinking Skills. This section employed pictorial worksheets which stressed such mental skills as classifying fruits and vegetables, furniture and machines, birds and insects; understanding such opposites as hot-cold and soft-hard; identifying multiple meanings of words; designating objects which belong together (such as knife and butter or umbrella and overshoes); or arranging pictures in a proper time sequence. The section also touched upon the meaning of prepositions and tenses; the detecting of absurdities; and training in making deductions from given clues.

H. Independent Activities. Under the designation "Independent Activities" Continental Press has provided, as in the other units, 48 worksheets and a teacher's guide covering Levels I and II. These extra worksheets could be used whenever a child or class needed reinforcement in any of the five basic skills.

I. Evaluation of Pupils' Progress. From a prescribed method of grading periodic tests, the teacher was asked to maintain a continuous record, in graph form, of each pupil's growth in relation to the class, as well as in relation to his own achievement standing at the beginning of the year.[1]

Methods V, VI and VII

Aims of the Combination Methods

In order to assess the effect of adding handwriting to the four basic methods, three additional methods were devised combining the Language program, which included handwriting, with the three other methods.

Language (Method I) together with Letter Sounds (Method II) became Method V (Language/Letter Sounds).

Language (Method I) and Literature (Method III) became Method VI (Language/Literature).

Language (Method I) and Skills Development (Method IV) became Method VII (Language/Skills Development).

Procedure for Combining Methods

To combine Method I with the other methods, while retaining the same number of minutes per day in directed work, it was necessary to delete from the lessons assigned to the original methods some which provided for practice, or for enrichment, or for an overlap of knowledge and skills, and to select others that would blend methods together successfully.

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[1] See Appendix C for copies of the forms used for keeping these records.

Presentation of the Alphabet

Since the first six weeks of instruction in all Cedar Rapids first grades includes teaching the writing of the letters of the alphabet, it seemed administratively advisable to include the low group pupils in this initial presentation of the alphabet. After this six-week period, Methods I, V, VI and VII continued with such instruction. Methods II, III and IV, however, received no further writing instruction during either the directed reading period or any other part of the day. This presented the possibility of observing the influence of handwriting on beginning readers. (If a pupil in these methods showed an interest in writing, he was allowed to pursue this interest on his own, writing materials being available in all rooms.)

Scheduling for Combined Methods

In organizing Methods V, VI and VII a schedule was provided for the teacher which explained what part of each method to use. When possible, lessons were chosen from each method which would complement each other.

During the first two weeks of the study, however, only one method was taught in all the combinations. The desire was to spare either teacher or pupils the burden of having to adjust to two methods at once.

During the third and fourth weeks, Language lessons, as one of the two lessons per day, were introduced into Methods V and VII. During the fifth and sixth weeks, the Language lessons were taught exclusively, although in each of these methods five minutes a day was devoted to the maintenance of the companion method. As a 20-minute class period for the morning session and a 15-minute period for the afternoon were originally provided, it was necessary to arrange the teaching schedule so that by the end of the semester an equal proportion of time would have been spent on each method.

Method VI (Language/Literature) followed the Language lessons exclusively during the second and third weeks, with a balance between the two methods finally being achieved during the fifth week.

Materials for the Combination Methods

The same types of basic and supplementary materials were used in the combinations as had been used in the "straight" methods, except in instances where (as in Method VI)[1] fewer materials were used because of the obvious factor involved in the combining process.

Description of Contents of the Teacher's Manuals

Method V. The teacher's manual was the same as that for Method II, with the following exceptions:

1. Selected Method II (Letter Sounds) lessons were included which

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[1] Each Method VI teacher was given the opportunity to choose the lessons which would be most beneficial for her group, with the exception of lessons for six books (four of which are a part of the Little Owl Series) which were deleted from the plans for all Method VI teachers. The books deleted were:

Little Owl Series. New York: Holt, Rinehart and Winston, Inc., 1963:
Let's Talk About the World, Carole Kofod Butterfield
The Old Woman And Her Pig, Donald E. Cooke, Illustrator.
Baby Elephant, Patricia K. Miller and Iran K. Seligman
Going Up, Going Down, H. R. Wittram

Others:
Garten, Jan. The Alphabet Tale. New York: Random House, Inc., 1964.
Geisel, Theodor. Dr. Seuss' ABC. New York: Random House, Inc., 1963.

would complement the material presented in Method I (Language).

2. A set of lessons adapting the Language Method materials was provided.
3. The section entitled "Instructional Information" included lessons for a maintenance program. This allotted five minutes per day of the instruction time for maintaining skills of the Letter Sounds Methods during the two weeks when only the Language Method was taught.
4. Lesson evaluation sheets for the Letter Sounds division of this method included only the lessons taught.

Method VI. The teachers were provided with the complete manual of Method III, plus a set of lessons using the Language Materials in an adaptation to this method.

Method VII. The order of introduction of skills varied somewhat in Method VII from that which had been followed in Method IV.

All of the Level I Visual Discrimination material was prescribed for completion within the first week of the instructional period. During this period four of the Visual Motor worksheets were scheduled. Visual Motor (Level I) was scheduled for completion during the second week of the instructional period.[1] Beginning Sounds work at Level I was started during the third instructional week. Intensive work with beginning sounds was continued through the 12th instructional week. At this time brief lessons outlined how the work with Thinking Skills was to be pursued. Level II of Visual Motor and Visual Discrimination was also introduced.

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[1] This proved to be much too fast for these worksheets. Teachers suggested spreading them over a longer period of time and intermixing them with other work.

Rhyming (Level I) was not introduced until Week 13 as it was felt that there would be less chance for confusion with beginning sounds at this time.

The scheduling ran through an 18-week period, although two of these were partial weeks.

The following table shows how much of each of the five skills was scheduled for completion during the first semester.

TABLE 2

Work Schedule for Method VII

Skills	Worksheets to be Completed	
	Level I	Level II
Visual Motor	1 - 24	1 - 22*
Beginning Sounds	1 - 24	---
Visual Discrimination	1 - 24	1 - 24
Thinking Skills	1 - 14	---
Rhyming	1 - 24	1 - 8

*Several omitted.

PROCEDURE: INSTRUCTIONAL PROGRAM: Second Semester

At the beginning of the second semester all research pupils participated in a transitional period, followed by entry into the Ginn basal reading program. The sequence of materials used during the second semester as well as the identifying numbers of the special lessons which were developed are shown below.

Sequence of Second Semester Materials

Transition Period (10 lessons)
- I Like to Be Me, Lessons 1-5 (trade book)
- All Kinds of Neighbors, Lessons 1-5 (trade book)

Pre-primer Level, (72 or 92 lessons depending on use of Come With Us)
- My Little Red Story Book, Lessons 1-20 (basal reader)
- My Little Green Story Book, Lessons 21-49 (basal reader)
- My Little Blue Story Book, Lessons 50-69 (basal reader)
- Directing Attention to the Alphabetic Principle, Lessons A, B, C
- Come With Us, Lessons 1-20 (Optional)[1] (enrichment reader)

Primer Level (56 lessons)
- The Little White House, Lessons 1-9 (basal reader)
- Come With Us, Lessons 10-15 (Optional)[1] (enrichment reader)
- The Little White House, Lessons 16-23 (basal reader)
- Hop on Pop, (Dr. Seuss), Lessons 24-25 (trade book)
- The Little White House, Lessons 26-35 (basal reader)
- Word Builders, Lesson 36 (supplementary device)
- Hop on Pop, Lessons 37-38
- The Little White House, Lessons 39-47 (basal reader)
- Mr. and Mrs. Big, Lessons 48-54 (enrichment reader)
- The Little White House, Lessons 55-56 (basal reader)

A complete bibliographic listing of second semester books and materials is given at the close of this chapter, while sample lessons from each of the levels may be found in Appendix B.

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[1] The amount of time to be spent with Come With Us, a pre-primer enrichment book, was determined by teacher and supervisory judgment depending upon the needs of the group.

Transition

The transitional period (January 25 - February 5) afforded time for *all* pupils to identify with the natural reading experience of using a hard-cover book in a relaxed situation. Since some of the first semester methods did not include guided experience with books, introductory instruction in formal reading explained how to handle a book, how to note page sequence, how to follow word and sentence order, and how to interpret punctuation marks. Also, while introducing these mechanics of reading, a concerted effort was made to maintain the enthusiasm for learning already generated among the pupils during the first semester. The use of the hard-cover book provided a vehicle for such enthusiasm as it allowed the pupils the fun of "reading."

The books used were the Little Owl book, *All Kinds of Neighbors*,[1] and Barbara Bel Geddes' *I Like to Be Me*.[2] Both books were selected because they offered occasion for self-involvement. Each pupil was supplied a copy of the book *All Kinds of Neighbors*. One or more copies of *I Like to Be Me* were provided for each research group depending upon size of the group.

The teachers continued to observe the 20-minute morning and 15-minute afternoon reading periods, and the lessons, five for each book, took approximately a week to complete. (During the afternoon periods of this transition time, the teachers continued to teach their first semester method.)

No attempt was made during this period to master a specific vocabulary. Techniques found helpful in some of the first semester methods were now introduced to all pupils. For example, rather than presenting the words on the chalkboard, the children were led, through dramatization and examination of All Kinds of Neighbors, to see the correspondence between the spoken and written word and to discover, through their own reasoning whenever possible, what a written word might be.

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[1] Howard R. Wellesley, *All Kinds of Neighbors*, (New York: Holt, Rinehart and Winston, Inc., 1963)).

[2] Barbara Bel Geddes, *I Like to Be Me*, (New York, The Viking Press, 1963)).

The development of imagery was also stressed in the lessons. It was felt that these books, rich in this area, would strengthen the understanding of imagery by some pupils who had not had such exposure during the first semester. In the book, All Kinds of Neighbors, depiction of a neighborhood scene set the stage for creative activity by the pupils. But always before adding more detail to their "neighborhood" for a broadening of the concept of a neighbor, the pupils were to realize a need for each addition.

The pupils were led to express themselves verbally and with as much variety as possible, both in response to the reading of the story by the teacher and in the explanation of their creative efforts that grew out of the lessons. They were introduced to the author and the illustrator of both books and the techniques of allowing the children to peruse the story before reading was introduced. (This technique is discussed in more detail in a footnote on p. 93.

Because both of these books lent themselves to individual reading on one side of the page and group reading on the other, it was felt the pupils might join in "reading" the repetitive sentences and thus gain an early feeling of success in the act of reading. These lessons also provided instruction in using the pictures to identify each sentence.

Humor and imagination play a large part in both of these books and these elements were emphasized within the lesson plans whenever possible.

After class work with All Kinds of Neighbors was completed each pupil was allowed to take the book home to share with his family. This same procedure was followed at the conclusion of the lessons on I Like to Be Me.

Basal Reading Program

Pre-primer Level

After the transition period, all pupils began work in the Ginn pre-primers progressing according to the needs of the individual groups through the specially prepared lessons.[1]

Come With Us. Several groups of pupils needed broader experiences after the pre-primer level before they were able to move into the primer. The Ginn enrichment reader Come With Us was chosen to do this job and a special series of 20 lessons was offered to teachers. All other pupils read Come With Us as part of the regular primer program outlined above with the instructional emphasis placed on learning to read alone with as many as three stories read at one sitting. Attention was also given to the similarities of the urban setting of the stories in this book and that of the research pupils. Many creative experiences grew out of this consideration.

Primer Level

Before starting work at this level all pupils were informally tested. The Little White House[1] was considered the base book and was treated in units because the stories in each unit developed a central theme. In this way it was made possible to engender deeper and broader meaning and thus provide more content. It was also possible to allow for more self-involvement with the experiences depicted through the pictures and written text and thus lead to more individual enjoyment and creativity in thought.

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[1] The Do and Learn book accompanying the basal reader at both the pre-primer and the primer levels was used for independent reinforcement when the pupil worked alone and to reinforce auditory discrimination and word recognition in an oral form in group exercises.

The instruction accompanying the materials at the primer level served to continue the procedures initiated during the pre-primer program.

Other books were introduced at the primer level to help implement the learnings and attitudes of the pupils and to attempt to develop stable readers. These were as follows:

Hop On Pop (Lessons 24-25; 37-38). This book was selected for use after Unit 2 of The Little White House because of the possibility it afforded for identification with "real books" and because of the consistent opportunity it gave for the recognition of previously introduced words and the application of the skill of consonant substitution for identifying new words. Copies were made available for each pupil in the group. Four lessons were prepared to be used with this Dr. Seuss book. Background information on the life of Dr. Seuss and a photograph of him was made available to all teachers for making the author of the book seem more personal to the pupils. Emphasis was placed in these lessons on the "why" of Hop On Pop. Creative activities were a very natural outgrowth of the use of this book.

In a communication to the teachers discussing the use of the book the following statements were made: "Above all, the book is to be read for fun. It does, however, provide an opportunity for deepening the understanding of the make-up of words. In addition, it provides a situation to develop creative thinking and performance."

Mr. and Mrs. Big. Lessons 48-54 were written to accompany the Macmillan supplementary enrichment primer Mr. and Mrs. Big. The stated purpose with the lessons for this book was to develop a positive attitude toward, and good habits for, reading alone. For example, after a brief examination of the story in the reading group, it was recommended that the pupils be allowed to return to their seats "to experience the feeling of reading alone." This experience was followed by group experiences to help the children see the power they had developed and to deepen meaning for the story. As in previous lessons, an attempt was made to involve the pupils in the story as deeply as possible through discussion, dramatization, the making of inferences and auditory imagery. In addition, this paperback book helped to strengthen word skills through exposing the pupils to previously presented words in new settings, some of which were specific to a farm theme. The pupils were to apply such skills in identifying new words, as well as to use context clues when these would help in identifying a word.

Principles and Practices

Although originally it had been planned to use the manual lessons accompanying the basal reader during the second semester, a close observation of the way these pupils learned during the first semester and the types of experiences which generated their interest led to the development of special lesson plans for all second semester material.[1] In

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[1] The responsibility for the development of special lesson material for the second semester was shared by members of the research staff and the central administrative staff listed below:

Dr. Louise Beltramo, University of Iowa and Co-Investigator
Helen Crane, Primary Grade Consultant
Billie Parr, First Grade Teacher
Margaret Wittrig, Elementary School Principal

developing these lessons, the following principles and practices were adhered to:

Assurance of successful experience through informal evaluation and perceptive observation

Teachers were encouraged to pace the material according to the needs of their group, the emphasis being placed on steady progress rather than on a defined schedule.

Development of independent readers

At the beginning of the semester, the pupils were given hard-cover books which gave them the opportunity of being identified as readers. During the pre-primer period, many lessons provided specific times for the pupils to read alone,[1] with follow-up instructions designed to develop habits and attitudes for such reading.[2] Reference materials for helping the pupil as an independent reader were furnished. The Ginn Picture Dictionary[3] and a hectographed dictionary of all words appearing in the pre-primers and primer were included for each pupil. The Word Builder device[1] was supplied to help the pupils identify words, and supplementary books were provided as an aid in developing actual reading power. A description of these supplementary books is included at the close of this chapter. Throughout the semester, periodic word study lessons[2] equipped the pupils with skills which would help them identify words independently.

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[1] Some of these experiences included reading the climax of a story independently or reading a complete story from the reader before coming to class. These experiences were variously but consistently reinforced through pupil and teacher discussion, sharing pupils' pictorial interpretations, and oral reading. This type of training commenced during the use of the second pre-primer.

[2] An opportunity for children to share their interpretations of stories in both a written and pictorial form was provided in almost all lessons. The teacher's attention was directed and time was provided at the beginning of the subsequent lesson for this aspect of sharing. The teacher often used the insights she gained from these sharings to add depth to the content of the stories.

The pupils were always allowed and encouraged to take books home after they had completed them at school. In most instances special preparation was made for this so that the experience would be more meaningful, enjoyable and successful. This added incentive to the pupils' natural desire to read the stories well. It also provided contact with the homes.

[3] Hale C. Reid and Helen W. Crane, *My Picture Dictionary* (Boston: Ginn and Company, 1963).

Enjoyment of stories through literary approach to the use of the basal readers.

In an effort to sustain the pleasant storybook approach characterizing the transition period, the teachers were directed to consider many stories as a whole rather than as several separate pages. Full emphasis was placed upon the enjoyment of reading the stories as stories. The presentation of stories was kept separate from word study lessons although such lessons were a very definite part of the program.

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[1] Although few devices were used in the program, one which could be utilized by the teachers in many different situations was the word builder -- a device for providing practice in consonant substitution. Common three-letter words which followed the pattern -- consonant-vowel-consonant -- were printed on manila cards. Separate cards containing single consonants, vowels and selected consonant digraphs were also supplied. Beginning, middle and ending letters might then be placed over a letter on the word card to form a new word.

[2] The word study lessons which began at the pre-primer level were spaced intermittently throughout the semester as they augmented the narrative materials. They were designed to provide the pupil with fundamental word recognition skills which he could then apply in identifying the vocabulary in the stories. Regular review of previously introduced vocabulary was provided. When it seemed appropriate to the background of the pupils or helpful in learning to read the word, a variety of experiences was provided to enrich meaning.

Just prior to the primer level, in an attempt to give these children a larger and more meaningful context with which to identify words, a series of instructional tasks for teaching the alphabetic principle was developed.

As an outgrowth of this learning, a key word line was made by each group to be used as a reference for word identification for the remainder of the semester. Each of the 26 cards of this reference included a letter of the alphabet, an illustration of the word chosen by the pupils and the word itself -- printed below the picture. An important aspect of this device was the fact that the pupils chose and illustrated the key word.

Following the whole story idea, two or more stories were considered together when the content lent itself to such treatment, and relationships were built between the stories in a unit. To emphasize this enjoyment of stories as stories, pupils were allowed to peruse[1] the stories freely before reading and a story-telling technique[2] was written into the lessons for use by the teachers.

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[1] At the beginning of one story the following directions appear:

> "After the children locate the story, provide adequate time and encouragement for individual perusal, making note of children's individual comments."
>
> (Primer Lesson #17)

A teacher might say, for example, "Why don't you just take a few minutes to enjoy the story in any way you'd like." And then she would sit quietly and let the pupils look through the story as anyone might naturally do when first picking up a new book. The idea of allowing the pupils a period for perusing the story before actual reading came from observation of the success of this technique during the first semester in the Literature Method. Perusal is what most pupils seem to want to do when they see a story for the first time. It allows them to look through the whole story, in any way they like, before directed reading takes place. In a single group, this might mean that some pupils would quickly look at all the pictures, while others might study them carefully and then let their eyes move naturally into the text. It often meant that pupils were reading aloud, but at different places in the story depending upon their interest and abilities. Each individual pupil thus had the reinforcing opportunity of hearing himself say the words alone.

During the perusal the teacher was to involve herself in a consideration of the story also, and often when a pupil noted a particular feature of a picture or its text the teacher could join in spontaneously, sharing what she saw or read which particularly pleased her.

[2] After the pupil had had time to peruse the story the teacher was directed to ask, "Now shall we read the story in a different way?" Teachers were shown in the lesson plans how to weave a story background in such a way that the text logically grew from the teacher's comments. It became natural for the pupils to chime in simultaneously as the teacher's comments led naturally into the text below the pictures, which were mostly a conversation between characters.

During this handling of the story the teachers were directed to avoid the more traditional, "Now, Johnny, will you read the next page, sentence or paragraph." Instead, lead-on sentences such as "Tom thought it was so funny he started to laugh and then he said," were used, the idea being to avoid questions that would break or destroy the literary aspects of the story.

Emphasis on Vocabulary Development Through Inclusion of Language Patterns

Recognizing that many pupils' home speech patterns differ greatly from school speech patterns, much of the new vocabulary was introduced through oral phrases repeated many times in meaningful situations, before the pupils were introduced to the words in a written text. For example, in introducing the word this, the teachers were instructed to hand the pupils their books with phrases such as "This is for you, Susan," and, "Randy, this is for you," if this was used in the story in such a language pattern. After this oral introduction in a seemingly natural situation the phrase was put on the board and related through oral context to the content of the story with encouragement for the pupils to read alone, "This is for you." The next step was to ask an apt pupil to read the phrase, and gradually all pupils were included in the reading. When the encounter with "this" came in the story each pupil had already met the word in sentence patterns in both an oral and a written situation. In this process of vocabulary development many Dolch words were taught as parts of familiar language patterns. Such introduction to words in language patterns was an attempt to prepare the pupils for the types of sentences they would meet in reading and thus make the process a more natural and enjoyable one for them.

Inclusion of Writing as an Integral Part of Learning to Read

In many of the second semester lessons writing experiences were used to reinforce reading. During the pre-primer lessons simple tasks such as copying words from the picture dictionaries, copying stories which the teacher had placed on the board and inserting the punctuation; writing words to reinforce visual discrimination; use of capital and lower case forms; and copying sentences to describe a picture were given to the pupils.

Sentence stems were used throughout the semester on both the chalkboard and worksheets to provide the pupils with an experience in reading and writing. As the pupils worked in the third pre-primer they were given tasks such as completing sentence stems using their picture dictionaries and writing stories in the individual pocket charts.[1] Writing also was used during this period to reinforce new vocabulary and initial consonant substitution. By the end of the pre-primers, the pupils were starting to compose stories, rewrite stories from the book, and write titles as a reinforcement of capitalization.

During the work with the primer, the above types of writing activities were continued and in addition creative writing appeared more often as part of the independent activities of each lesson.

In addition to the writing activities that occurred as part of the reading program, all pupils participated in planned language exercises using the Ginn Elementary English as the base. This material was presented in a separate period and was not considered part of the allotted 40 minutes reading instruction period. For those pupils who had not had the materials during the first semester this meant a period of adjustment before going into the 1^2 materials, and in some instances it was necessary for the pupils to work in the 1^1 materials rather than the 1^2.

Preparation for Summer Reading

This lesson, developed for presentation in two periods of necessary, was designed to call the pupils' attention to all the places and ways in which they might need and want to read during the summer months. The pupils were to:

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[1] See Hale C. Reid and Helen W. Crane, *Ginn Elementary English*, 1^1, *op. cit.*, pp. M38-39, for description of individual pocket charts and their use.

(1) review what they had learned to do in first grade with an emphasis on reading

(2) relate their new learnings to their home situation

(3) examine a calendar and see what types of things they might do each day during the many summer days.

Directed discussion involved the use of television, newspapers, signs, books and the library, Within this framework the teacher was then to help place reading activities among summer activities as an enjoyable activity and a way to find out things the pupil might want to know. It was the intent that through exposure the pupils might actually seek out opportunities to use their reading skills during the summer months.

SECOND SEMESTER MATERIALS

As indicated in the earlier section on In-service Meetings, the research teachers were strongly in favor of having the pupils work in a basal series other than that used by the non-research children in the class during the second semester. Accordingly, the following materials were selected for use during the second semester.

Pre-Primers

Ousley, Odille, and Russell, David H. My Little Red Story Book, rev. Boston: Ginn and Company, 1964.

______. My Little Green Story Book, rev. Boston: Ginn and Co., 1964.

______. My Little Blue Story Book, rev. Boston: Ginn and Co., 1964.

______. Come With Us, rev. Boston: Ginn and Co., 1959.

Primer

Ousley, Odille, and Russell, David H. The Little White House, etc. Boston: Ginn and Co., 1964.

Workbooks

Ousley, Odille, and Russell, David H. *My Do and Learn Book* for: *My Little Red Story Book*, rev., *My Little Green Story Book*, rev., *My Little Blue Story Book*, rev. Boston: Ginn and Co., 1964.

______. *My Do and Learn Book* for *The Little White House*, rev. Boston: Ginn and Co., 1961.

Enrichment Materials

Arbuthnot, May Hill (ed.). *Time for Poetry.* Chicago: Scott, Foresman and Co., 1953.

Bel Geddes, Barbara. *I Like to Be Me*. New York: The Viking Press, 1963.

Burton, Virginia Lee. *Mike Mulligan and His Steam Shovel*. Boston: Houghton Mifflin Co., 1939.

Eichenberg, Fritz. *Ape in a Cape*. New York: Harcourt, Brace and World, Inc., 1952.

Gates, Arthur I., *et al*. *Mr. and Mrs. Big*. New York: The Macmillan Company, 1951.

Geisel, Theodor (Dr. Seuss). *Fox in Sox*. New York: Random House, Inc., 1965.

______. *Hop On Pop*. New York: Random House, Inc., 1963.

______. *The Cat in the Hat*. New York: Random House, Inc., 1957.

Gray, William S., Monroe, Marion, Artley, A. Sterl, Arbuthnot, May Hill, and Gray, Lillian. *We Look and See*. Scott, Foresman and Company, 1956.

______. *We Work and Play*. Scott, Foresman and Company, 1956.

______. *We Come and Go*. Scott, Foresman and Company, 1956.

Reid, Hale C., and Crane, Helen W. *My Picture Dictionary*. Boston: Ginn and Company, 1963.

Wellesley, Howard R. *All Kinds of Neighbors.* New York: Holt, Rinehart and Winston, Inc., 1963.

Other Devices:

Alphabet Key Word Cards
Art Materials
Birthday candles
Bulletin boards
Chalkboard
Charts and sentence strips, teacher-made
Collection of small objects for use with consonant sounds
Consonant Pictures (No. 272-1). Chicago: Ideal School Supply Co.
Dictionary, dittoed, individual copy for each pupil
Dollar bill
Flannelboard
Ginn Basic Card Set, Unit I (16 pictures, 256 word, 140 sentence and phrase, 37 punctuation, and 4 "Y" cards for pre-primers and primer)
Hat box
Letter cards (a set each for capital and lower case letters)
Magazine pictures
Manuscript writing paper (first grade)
Old magazines
Paint color chart

Photo of Dr. Seuss
Pocket charts, individual desk and wall
Pre-primer word cards, individual
Properties for dramatizations (apple, basket, boxes, bubble pipe, bunny, gloves, etc.)
Records (Album, Music for Young Americans, #BM-1. New York: American Book Company, 1960.)
Stand-up cut-outs of Tom, Betty, Susan, Flip and Pony
Word builder device

ANALYSIS OF DATA AND FINDINGS

The objective consideration of data is placed first in this chapter. It will deal with the findings of the three major problems: 1) the comparison of the mean midyear group scores by method; 2) the comparison of the mean end-of-year group scores by method on the Stanford Achievement Test; and 3) the comparison of the mean individual scores by method on specified oral reading tests. (This third consideration will also deal with the comparison, by method, of the individual scores of the intensive sample pupils on the handwriting sample.) A comparative analysis will also be presented of those methods which included handwriting against those which did not.

Subjective findings are also included in this chapter as a supplement to the picture outlined in the objective presentation. Findings pertaining to pacing, the amount of material covered, and regrouping are also dealt with in this chapter.

Objective Data

Statistical Treatment

The results of the three comparisons outlined above were analyzed by methods of analysis of covariance. Adjustments were made for the differences on the three common control variables: initial pupil performance as measured by raw scores on the beginning-of-the-year Metropolitan Readiness Tests, Form A, (Table 3); individual ability to profit from instruction (Table 4);[1] and quality of the teacher as measured by supervisory judgement.[2] T-test comparisons were also made using means adjusted for the three control variables.

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[1] The WISC Verbal was chosen as a measure of the pupil's ability to profit from these types of reading instruction.

[2] See p. 34 for an explanation of the Teacher Quality Index (T.Q.I.).

TABLE 3

Metropolitan Readiness Test, Form A
Distribution of Total Raw Scores by Method[1]

Method	I	II	III	IV	V	VI	VII	Total
49-64	16	26	17	27	16	13	24	139
33-48	26	15	24	21	23	15	15	139
17-32	5	3	4	5	4	1	5	27
1-16		3					1	4
Totals	47	47	45	53	43	29	45	309

TABLE 4

Distribution of WISC Verbal Scores by Methods

Method	I	II	III	IV	V	VI	VII	Total
120-129 mentally advanced	1	1					1	3
110-119 bright normal	4	6	5	7	7	5		34
100-109 average	10	15	12	12	14	12	17	92
90-99 average	13	13	11	20	10	10	15	92
80-89 slow learning	12	9	13	11	10	1	5	61
70-79 borderline	7	3	3	3	2	1	4	23
60-69 educable ment. ret.			1				3	4
Totals	47	47	45	53	43	29	45	309

---

[1] Although the actual range on the Metropolitan Readiness Test, Form A, is 1-103 (raw scores), only pupils falling below the 60th percentile (raw scores of 64) were admitted to this study. The quartile presentation of these scores reflects the distribution of all pupils whose scores fell on or below the 60th percentile in the September Metropolitan Readiness Tests.

Rationale for Hypotheses

As stated in the section of PROBLEMS AND OBJECTIVES, this study was conducted with the hope of discovering methods and materials especially suitable for use with the low reading group pupils. It was recognized that parts of several existing approaches might be suitable, but which parts? In an effort to make this kind of pinpointing easier, hypotheses were made for each subtest of the midyear tests as well as each of the end-of-year tests. In this way, it was hoped that areas in which an educated guess had paid off might be highlighted and that hypotheses proved false might lead to exploring new approaches, or suggest adaptations of existing approaches, and other combinations.

Tests

At the beginning of the year, in addition to the Metropolitan Readiness Tests, the following tests were administered: Murphy-Durrell Diagnostic Reading Readiness Test (rev.); the Pintner-Cunningham Primary Test, Form A; the Thurstone Primary Perception Tests; and the Wechsler Intelligence Scale for Children. (The range on the WISC Verbal was 70-126 with a median of 97 and a mean I.Q. of 95.7.)

At midyear, a specially constructed battery of tests was given to all pupils to measure gain. Eleven selected subtests of the beginning of the year tests were arranged under the three general categories of visual discrimination, auditory discrimination, and comprehension.

End-of-the-year testing, at the beginning of May, for the 309 remaining pupils, was centered on the Stanford Achievement Test, Primary I Battery (excluding arithmetic). An intensive sample of twenty randomly selected pupils from each of the seven first semester methods was individually tested on: the Gates Word Recognition, Fry Oral Reading Test of Phonetically Regular Words, and Gilmore Oral Reading Test.

Attention should probably be called to the fact that end-of-year tests were administered after only two and one-half months of formal book instruction.

Midyear: Statistical Treatment. As indicated in the earlier chapter on PROCEDURE, one of the three major problems of this study was an analysis of the comparison by methods on selected midyear tests. To achieve this end, an analysis of covariance based on means by method was performed for each of the eleven criterion variables. The common control variables used were: total raw score of the Metropolitan Readiness Tests, Form A; WISC Verbal: and TQI. The eleven criterion variables are listed below:

- Pintner-Cunningham
  - Copying
  - Classification
  - Word Association
  - Remembering Detail
- Murphy-Durrell
  - Letter Names - CAPS
  - Letter Names - lower case
  - Auditory Perception - beginning consonants
  - Beginning-Ending speech sounds
- Metropolitan Readiness Tests, Form A
  - Visual Perception
  - Copying
  - Comprehension (listening)

These subtests were regrouped under the three main headings of VISUAL PERCEPTION, AUDITORY PERCEPTION AND COMPREHENSION. It is under these three headings that the following hypotheses and ensuing statistical results are presented. The results of analysis performed on each of the 11 criterion variables is shown in the midyear subtest tables to be found on the succeeding pages. On each table, the time, general category and commercial name of the test are indicated on the first lines of the title; an explanation of what the test accomplished for local purposes is given in parentheses. Example: Midyear Test Results

Visual Perception: Metropolitan, "Copying"
(Copying Letters, Numbers and Geometric Forms)

The analysis is followed in each case by a sample item from the test with directions for administering. (These samples are included as a reference for the reader.) On a facing page is presented the original hypothesis for each subtest, followed by results and comments. This analysis reflects the scores of the 433 pupils who completed all subtests in both the September and February testing.

TABLE 5
Midyear Test Results

Visual Perception: Metropolitan, "Matching"
(Visual Discrimination of Words and Geometric Forms)

Method Adjusted Mean		IX St. Dev.	XII Lang./ St. Dev.	II Letters Sounds	VI Lang./ Lit.	V Lang./ Let. Sds.	III Lit.	I Lang.
		12.08	11.70	11.60	10.88	10.62	9.80	9.67
IX 12.08	diff.*** t-test		.38 .496	.48 .634	1.20 1.465	1.46 1.944*	2.28 3.037**	2.41 3.315**
XII 11.70	diff. t-test	-.38 .496		.10 .130	.82 1.013	1.08 1.448	1.90 2.541**	2.03 2.803**
II 11.60	diff. t-test	-.48 .634	-.10 .130		.72 .887	.98 1.310	1.80 2.403**	1.93 2.660**
VI 10.88	diff. t-test	-1.20 1.465	-.82 1.013	-.72 .887		.26 .309	1.08 1.307	1.21 1.504
V 10.62	diff. t-test	-1.46 1.944*	-1.08 1.448	-.98 1.310	-.26 .309		.82 1.093	.95 1.307
III 9.80	diff. t-test	-2.28 3.037**	-1.90 2.541**	-1.80 2.403**	-1.08 1.307	-.82 1.093		.13 .178
I 9.67	diff. t-test	-2.41 3.315**	-2.03 2.803**	-1.93 2.660**	-1.21 1.50	-.95 1.307	-.13 .178	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Metropolitan, "Matching"

STOP TOPS STOP ƧTOP

"Test 3. Matching. Test 3 is a test of visual perception involving the recognition of similarities, a capacity required in learning to read. Each item contains three different pictures of animals, figures, letters, or words. The pupil is to draw a frame around the picture that matches the one at the left."[1]

---

[1] Metropolitan Readiness Tests, Manual of Directions Form A, op cit., p. 1.

Midyear Test Results

Visual Perception: Metropolitan, "Matching"
(Visual Discrimination of Words and Geometric Forms)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Method VII and Method IV would rank high on the visual discrimination of words and geometric forms subtest because of the direct training given in the discrimination of words and geometric forms in these methods.

2. Method VII would probably score higher than Method IV because of the practical application of the skill in handwriting.

3. Method V would probably rank higher than Methods II, III and VI because Method V would not only include acquaintance and understanding of the symbol, but might have the added effect of the transfer from the detail study of letters, and the practice of writing.

4. Method I, although not directly teaching this skill, would rank higher than Methods II and III because Method I was expected to carry some transfer effect from handwriting. It was ranked higher than VI also because more handwriting was required in Method I than in Method VI.

Results:

Method IV was significantly better than Methods III and I at the 1% level.
Method IV was significantly better than Method V at the 5% level.
Method VII was significantly better than Methods III and I at the 1% level.
Method II was significantly better than Methods III and I at the 1% level.

Comments:

The results verified expectations that Methods VII and IV would rank high on the subtest. However, Method IV was significantly better than Methods III, I, and V, while Method VII was significantly better than Methods III and I. Contrary to our expectations, Methods V and I did not rank higher than Methods II and VI, although Method V ranked higher than Method III, but, however, not significantly so.

TABLE 6
Midyear Test Results

Visual Perception: Metropolitan, "Copying"
(Copying Letters, Numbers and Geometric Forms)

Method		IV Sk.Dev.	VII Lang./ Sk.Dev.	VI Lang./ Lit.	I Lang.	V Lang./ L.S.	III Lit.	II Letter Sounds
Adjusted Mean		9.65	9.32	9.17	9.00	8.82	8.61	8.12
IV 9.65	dif.*** t-test		.33 .443	.48 .584	.65 .890	.83 1.096	1.04 1.370	1.53 2.019*
VII 9.32	dif. t-test	-.33 .443		.15 .180	.32 .433	.50 .654	.71 .928	1.20 1.577
VI 9.17	dif. t-test	-.48 .584	-.15 .180		.17 .208	.35 .417	.56 .667	1.05 1.259
I 9.00	dif. t-test	-.65 .890	-.32 .433	-.17 .208		.18 .242	.39 .525	.88 1.195
V 8.82	dif. t-test	-.83 1.096	-.50 .654	-.35 .417	-.18 .242		.21 .274	.70 .923
III 8.61	dif. t-test	-1.04 1.370	.71 .928	-.56 .667	-.39 .525	-.21 .274		.49 .649
II 8.12	dif. t-test	-1.53 2.019*	-1.20 1.577	-1.05 1.259	-.88 1.195	-.70 .923	-.49 .649	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Metropolitan, "Copying"

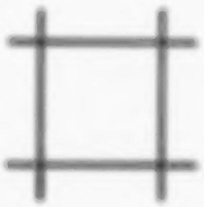
3

82

4

eg

5



"Test 6. Copying. Test 6 measures a combination of visual perception and motor control such as that required in learning to write. This type of test has proved to be diagnostic of mental maturity as well as physical development in young children. The tendency toward spatial reversal in drawing or writing which is shown by young children is disclosed in the copying type of item. This tendency is found to be correlated with immaturity in perceptual abilities and may be symptomatic of motor confusion."[1]

---

[1] Ibid., p. 2.

Midyear Test Results

Visual Perception: Metropolitan, "Copying"
(Copying Letters, Numbers and Geometric Forms)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods IV and VII would rank high because of the direct training in copying designs.

2. Method I would probably rank high because of its concentration on the copying of letter forms.

3. Methods V, VI, and VII would rank higher than II and III because of the inclusion of handwriting.

4. Method III might rank higher than Method II because of the inclusion of many art activities in Method III.

Results:

Method IV was significantly better than Method II at the 5% level.

Comments:

The results verified our expectations that Method IV would rank significantly high on this subtest, although it did so over Method II only. The hypothesis that Method I would be better than other methods was not justified. The hypothesis that the combination methods, those in which handwriting was taught, would rank higher than those in which no handwriting was taught during the first semester, was justified, but not significantly so. Method III did rank higher than Method II, but not significantly so.

TABLE 7
Midyear Test Results

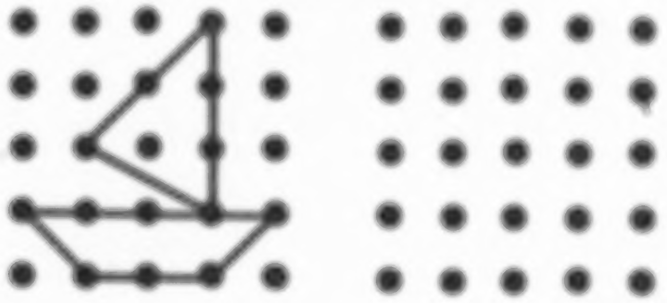
Visual Perception: Pintner-Cunningham, "Dot Drawing"
(Copying)

Method		IV Sk.Dev.	VII Lang./ Sk.Dev.	III Lit.	VI Lang./ Lit.	II Letter Sounds	V Lang./ L.S.	I Lang.
Adjusted Mean		5.92	4.95	4.85	4.83	4.71	4.62	4.25
IV 5.92	dif.*** t-test		.97 3.428***	1.07 3.790***	1.09 3.530***	1.21 4.301***	1.30 4.603***	1.67 6.128***
VII 4.95	dif. t-test	-.97 3.428***		.10 .361	.12 .400	.24 .873	.33 1.175	.70 2.590***
III 4.85	dif. t-test	-1.07 3.790***	-.10 .361		.02 .070	.14 .512	.23 .813	.60 2.214***
VI 4.83	dif. t-test	-1.09 3.530***	-.12 .400	-.02 .070		.12 .397	.21 .672	.58 1.937*
II 4.71	dif. t-test	-1.21 4.301***	-.24 .873	-.14 .512	-.12 .397		.09 .301	.46 1.690*
V 4.62	dif. t-test	-1.30 4.603***	-.33 1.175	-.23 .813	-.21 .672	-.09 .301		.37 1.374
I 4.25	dif. t-test	-1.67 6.128***	-.70 2.590***	-.60 2.214***	-.58 1.937*	-.46 1.690*	-.37 1.374	

Independent control variables: Metro, total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Item from Pintner-Cunningham, "Dot Drawing"



"Page 15. We are going to draw some pictures just like the pictures on this page. Do you see how the T is made? The lines are drawn to the dots. Here are some dots to make another T just like this one. Draw a T here. (Indicate dots opposite T.) Make it exactly like this one. (No time limit.)

"Now look at the tree. See just how it is drawn. In these dots make another one just like it. (Time, 15 seconds.)

"Now look at this picture here and this picture here (pointing to the two lower figures). Draw this one here and this one here (pointing). Go ahead! (Time, 30 seconds for both.)"[1]

---

[1] Pintner-Cunningham Primary Test, "Manual of Directions and Key," op. cit., p. 8.

Midyear Test Results

Visual Perception: *Pintner-Cunningham*, "Dot Drawing" (Copying)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

This test, slightly different in emphasis from the *Metropolitan*, "Copying," deals with dot drawing only. The *Metropolitan*, "Copying," test involved copying of letters, numbers, and geometric forms.

It was hypothesized that:

1. Methods IV and VII would rank high because of direct training in copying from dot drawings.

2. Method I would rank high on the basis of possible transfer from handwriting, especially because of the many copying experiences.

3. Methods V and VI would rank above Methods II and III because Methods V and VI included handwriting while Methods II and III did not. It was predicted that there might be some transfer from handwriting in this type of activity.

4. Method III would rank somewhat higher than II because of the possible transfer from the many art activities of Method III.

Results:

Method IV was significantly better than all the other methods at the 1% level.

All methods except Method V were significantly better than Method I: Methods IV, VII, and III at the 1% level; Methods VI and II at the 5% Level.

Comments:

The results verified our expectations that Methods IV and VII would be better than all other methods. However, only Method IV was significantly better than all of the rest, while VII was significantly better than Method I. Contrary to our expectations, Method I turned out to be the poorest on this skill as only Method V was not significantly better than Method I.

TABLE 8
Midyear Test Results

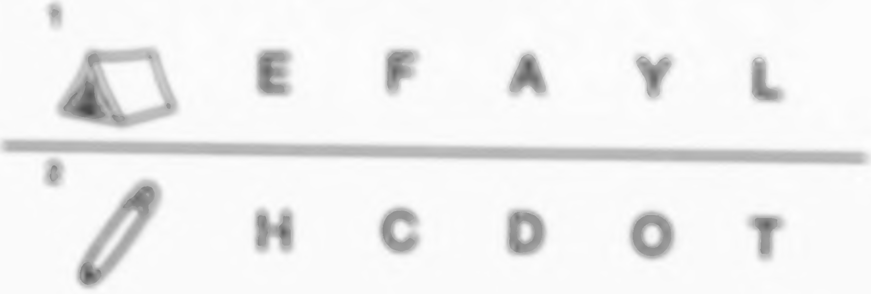
Visual Perception: Murphy-Durrell, "Letter Names"
(Visual Discrimination of Capital Letters)

Method Adjusted Mean		V Lang./L.S.	I Lang.	II Letter Sounds	VII Lang./St.Dev.	III Lit.	VI Lang./Lit.	IV St.Dev.
		24.68	24.58	24.51	23.92	22.95	22.84	22.16
V 24.68	diff.*** t-test		.10 .123	.17 .201	.76 .896	1.73 2.047**	1.84 1.996*	2.52 2.989**
I 24.58	diff. t-test	-.10 .123		.07 .085	.66 .803	1.63 1.993*	1.74 1.930*	2.42 2.964**
II 24.51	diff. t-test	-.17 .201	-.07 .085		.59 .695	1.56 1.846*	1.67 1.812*	2.35 2.789**
VII 23.92	diff. t-test	-.76 .896	-.66 .803	-.59 .695		.97 1.150	1.08 1.178	1.76 2.092**
III 22.95	diff. t-test	-1.73 2.047**	-1.63 1.993*	-1.56 1.846*	-.97 1.150		.11 .127	.79 .942
VI 22.84	diff. t-test	-1.84 1.996*	-1.74 1.930*	-1.67 1.812*	-1.08 1.178	-.11 .127		.68 .733
IV 22.16	diff. t-test	-2.52 2.989**	-2.42 2.964**	-2.35 2.789**	-1.76 2.092**	-.79 .942	-.68 .733	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Murphy-Durrell, "Letter Names" (Caps.)


1
E F A Y L
2
H C D O T

"Now we are going to do something different. I want to see how many letters you know. I will name a letter in each row and you will find it and put a circle around it.

1. Put your finger on the tent in the first row. Find A and draw a circle around it - A.
2. Put your finger on the safety pin. Find O and draw a circle around it - O."[1]

---

[1] Murphy-Durrell Diagnostic Reading Readiness Test, "Directions for Administering and Scoring," rev., op. cit., p. 5.

Midyear Test Results

Visual Perception: Murphy-Durrell, "Letter Names"
(Visual Discrimination of Capital Letters)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods I, V, VI, and VII (those methods which received direct training in the knowledge of capital letter names) would rank higher than those methods in which no such training was given (Methods III and IV).

2. Methods II and V would rank high, although their respective ranks seemed open to two possible lines of reasoning: a) The reinforcement of writing might cause Method V to rank higher than Method II or b) The great amount of time spent in the Letter-Sound Association only might cause Method II to rank higher.

Results:

Method V was significantly better than Methods III and IV at the 1% level and Method VI at the 5% level.
Method I was significantly better than Methods III and IV at the 5% level and Method VI at the 1% level.
Method II was significantly better than Methods III and VI at the 5% level and Method IV at the 1% level.
Method VII was significantly better than Method IV at the 1% level.

Comments:

The results verified our expectations that Methods I, V and VII would be better than Methods III and IV. Contrary to our expectations, Method VI turned out to be lower than all other methods except Method IV. Method V did rank higher than Method II, although not significantly so.

TABLE 9
Midyear Test Results

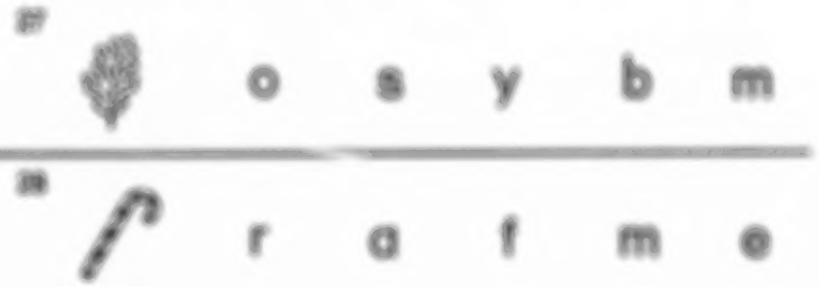
Visual Perception: Murphy-Durrell, "Letter Names"
(Visual Discrimination of Lower Case Letters)

Method Adjusted Mean		II Letter Sounds	V Lang./ L.S.	VII Lang./ Sk.Dev.	I Lang.	VI Lang./ Lit.	III Lit.	IV Sk.Dev.
		23.73	23.42	23.11	23.00	21.76	20.67	19.57
II	dif.***		.31	.62	.73	1.97	3.06	4.16
23.73	t-test		.279	.552	.672	1.616	2.758**	3.748**
V	dif.	-.31		.31	.42	1.66	2.75	3.85
23.42	t-test	.279		.273	.384	1.360	2.479**	3.469**
VII	dif.	-.62	-.31		.11	1.35	2.44	3.54
23.11	t-test	.552	.273		.102	1.112	2.206**	3.196**
I	dif.	-.73	-.42	-.11		1.24	2.33	3.43
23.00	t-test	.672	.384	.102		1.049	2.176**	3.198**
VI	dif.	-1.97	-1.66	-1.35	-1.24		1.09	2.19
21.76	t-test	1.616	1.360	1.112	1.049		.902	1.805*
III	dif.	-3.06	-2.75	-2.44	-2.33	-1.09		1.10
20.67	t-test	2.758**	2.479**	2.206**	2.176**	.902		.989
IV	dif.	-4.16	-3.85	-3.54	-3.43	-2.19	-1.10	
19.57	t-test	3.748**	3.469**	3.196**	3.198**	1.805*	.989	

Independent control variables: Metro, total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.686)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Murphy-Durrell, "Letter Names" (l.c.)


27
o s y b m
28
r a f m e

"'Now turn the page over and fold your books back.' See that all the children have the page of lower-case letters face up. 'Here are some more letters to circle.'"[1]

---

[1] Ibid., p. 7.

Midyear Test Results

Visual Perception: Murphy-Durrell, "Letter Names"
(Visual Discrimination of Lower Case Letters)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods I, II, and V would outrank the other methods because they had each had direct training in the learning of the lower case letter names.

2. Methods VI and VII, having had some exposure and some direct training to the letter names through the language part of their programs, were expected to rank midway on the final scores.

3. Methods III and IV would rank very low as they had had little or no exposure to the lower case letter names.

Results:

Method II was significantly better than Methods III and IV at the 1% level.
Method V was significantly better than Methods III and IV at the 1% level.
Method VII was significantly better than Methods III and IV at the 1% level.
Method I was significantly better than Methods III and IV at the 1% level.
Method VI was significantly better than Method IV at the 5% level.

Comments:

The results verified our expectations that Methods II, V and I would rank higher than Methods III and IV. Method VII ranked higher than Methods I and VI, contrary to our expectations, though not significantly so. All methods except Method III ranked significantly higher than Method IV.

TABLE 10
Midyear Test Results

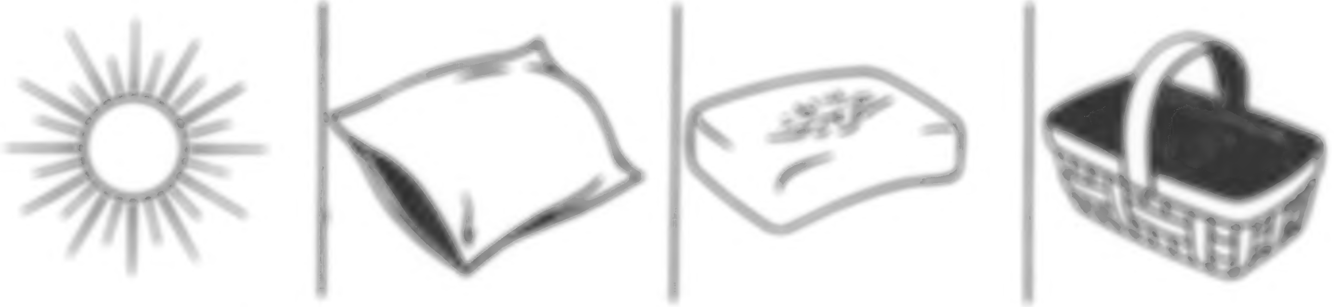
Auditory Perception: Murphy-Durrell, "Phonemes Part I"
(Auditory Discrimination of Beginning Sounds)

Method		VII Lang./ Sk.Dev.	V Lang./ L.S.	IV Sk.Dev.	I Lang.	II Letter Sounds	VI Lang./ Lit.	III Lit.
Adjusted Mean		16.83	15.80	15.69	15.68	14.04	13.65	12.64
VII	dif.***		1.03	1.14	1.15	2.79	3.18	4.19
16.83	t-test		.762	.838	.876	2.062**	2.165**	3.094**
V	dif.	-1.03		.11	.12	1.76	2.15	3.16
15.80	t-test	.762		.076	.088	1.299	1.449	2.332**
IV	dif.	-1.14	-.11		.01	1.65	2.04	3.05
15.69	t-test	.838	.076		.010	1.224	1.380	2.256**
I	dif.	-1.15	-.12	-.01		1.64	2.03	3.04
15.68	t-test	.876	.088	.010		1.254	1.408	2.320**
II	dif.	-2.79	-1.76	-1.65	-1.64		.39	1.40
14.04	t-test	2.062**	1.299	1.224	1.254		.262	1.032
VI	dif.	-3.18	-2.15	-2.04	-2.03	-.39		1.01
13.65	t-test	2.165**	1.449	1.380	1.408	.262		.680
III	dif.	-4.19	-3.16	-3.05	-3.04	-1.40	-1.01	
12.64	t-test	3.094**	2.332**	2.256**	2.320**	1.032	.680	

Independent control variables: Metro, total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Murphy-Durrell, "Phonemes Part I"



"1. S as an initial sound. Say, 'Today we are going to listen for sounds in words. Look at the first row of words on the board while I read them (pointing to each): salt, sand, soft. Notice how they all begin with the same sound s-s (the sound, not the letter name). Say s-s. . . .Now let's see if you can tell me what words begin with s-s on the first row of pictures on your paper. . .draw a circle around just the sun and soap because they begin with s-s.'"[1]

---

[1] Ibid., p. 2.

Midyear Test Results

Auditory Perception: *Murphy-Durrell*, "Phonemes Part I"
(Auditory Discrimination of Beginning Sounds)

Method I:	Language		
Method II:	Letter Sounds	Method V:	Language/Letter Sounds
Method III:	Literature	Method VI:	Language/Literature
Method IV:	Skills Development	Method VII:	Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods IV and VII would figure higher than VI and III because direct training was given to the auditory perception of beginning consonants in Methods IV and VII, whereas in Method III no such direct training was given, and in Method VI, only a small portion of time was devoted to such auditory training.

2. Methods II and V would figure somewhat higher than VI and III because strong emphasis was placed on the sounds of beginning letters in Methods II and V.

3. Methods II and V would rank *lower* than IV and VII because IV and VII had more direct auditory training, whereas II and V divided their concentration between auditory *and* visual, even though there was the element of understanding in Methods II and V which was perhaps lacking in Methods IV and VII.

4. Method I would rank midway in the scores as it was difficult to predict how much influence the added reinforcement of handwriting would give to the portions of direct training included in the method.

Results:

Method VI was significantly better than Method II, VI, and III at the 1% level.
Method V was significantly better than Method III at the 1% level.
Method IV was significantly better than Method III at the 1% level.
Method I was significantly better than Method III at the 1% level.

Comments:

The results verified expectations that Method VII would figure higher than Methods VI and III. The expectation that Method IV would rank high was justified, although it was only significantly higher than Method III. The expectation that Method V would figure higher than VI and III was also born out, although only significantly so in the case of Method III. Contrary to expectation, Method V ranked higher than all methods except Method VII, but was significantly higher than Method III only.

TABLE 11
Midyear Test Results

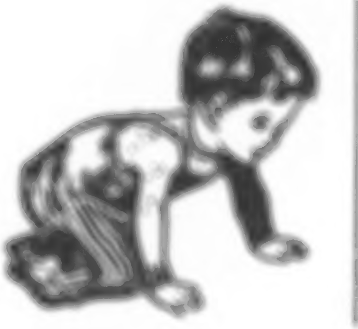
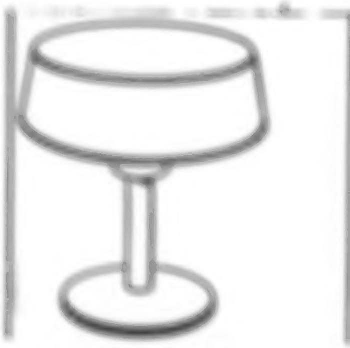
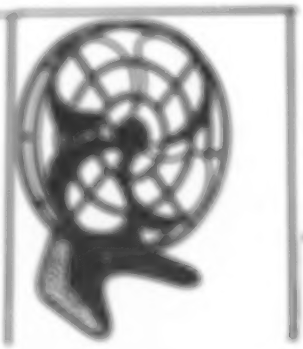
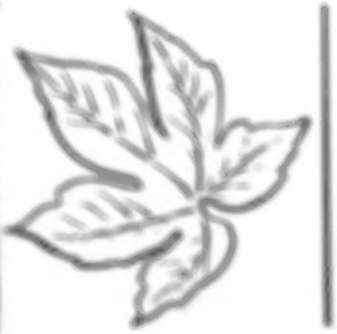
Auditory Perception: Murphy-Durrell, "Phonemes Part II"
(Auditory Discrimination of Beginning Consonants,
Ending Consonants, Speech Consonants)

Method Adjusted Mean		I Lang.	VIII Lang./ St. Dev.	IV St. Dev.	II Letter Sounds	V Lang./ L.S.	VI Lang./ Lit.	III Lit.
		19.95	19.81	19.19	18.48	18.16	17.25	15.40
I 19.95	dif.*** t-test		.14 .079	.76 .410	1.47 .792	1.79 .965	2.70 1.318	4.55 2.440**
VIII 19.81	dif. t-test	-.14 .079		.62 .320	1.33 .690	1.65 .858	2.56 1.213	4.41 2.286**
IV 19.19	dif. t-test	-.76 .410	-.62 .320		.71 .370	1.03 .537	1.94 .921	3.79 1.966*
II 18.48	dif. t-test	-1.47 .792	-1.33 .690	-.71 .370		.32 .167	1.23 .583	3.08 1.596
V 18.16	dif. t-test	-1.79 .965	-1.65 .858	-1.03 .537	-.32 .167		.91 .431	2.76 1.429
VI 17.25	dif. t-test	-2.70 1.318	-2.56 1.213	-1.94 .921	-1.23 .583	-.91 .431		1.85 .874
III 15.40	dif. t-test	-4.55 2.440**	-4.41 2.286**	-3.79 1.966*	-3.08 1.596	-2.76 1.429	-1.85 .874	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Murphy-Durrell, "Phonemes Part II"

"Open your books to page 5 where you will see another page of pictures. . . .Now we are going to listen for sounds in words again.

"1. L as an initial sound. 'Say these words after me: like, little, look. What is the first sound in them? Yes, l-l. Say them again and notice the l-l at the beginning: like little, look.

"Now put your marker under the first row of pictures and say them after me: baby, lamp, fan, leaf. Put a circle around the ones that begin with l-l'"[1]

---

[1] Ibid., p. 9.

Midyear Test Results

Auditory Perception: Murphy-Durrell, "Phonemes Part II"
(Auditory Discrimination of Beginning Consonants,
Ending Consonants, Speech Consonants)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods II and V would rank higher than Methods IV and VII. Although all four methods had been given minimal training in distinguishing some of the tested elements, it was predicted that there might be more transfer from auditory training in beginning sounds in Methods II and V than in Methods IV and VII. In methods II and V, intensive training in the alphabetic principle introduced an element of understanding not present in Methods IV and VII.

2. Method VI would rank low and Method III would probably rank even lower on this test because of the lack of direct training of the auditory perception of beginning and ending consonants and speech sounds in these methods.

3. Method I's position, although perhaps influenced by some direct training in the auditory distinguishment of beginning consonants, seemed debatable depending upon how much transfer would result from the other communication areas such as handwriting.

Results:

Method I was significantly higher than Method III at the 1% level.
Method VII was significantly higher than Method III at the 1% level.
Method IV was significantly higher than Method III at the 5% level.

Comments:

Contrary to our expectations, Methods I, VII and IV ranked above Methods II and V, although not significantly so. Our expectation that Method VI would rank low on this subtest was verified, as was the hypothesis that Method III would do the poorest on the test. Methods I, VII, and IV were significantly higher than Method III.

3-5

TABLE 12
Midyear Test Results

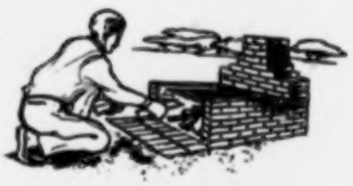
Comprehension: Metropolitan, "Listening"
(Listening involving word meaning in context and following directions)

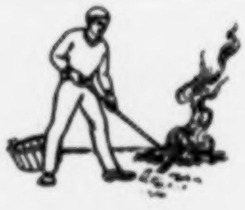
Method Adjusted Mean		I Lang.	VII Lang./Sk.Dev.	IV Sk.Dev.	VI Lang./Lit.	II Letter Sounds	III Lit.	V Lang./L.S.
		11.18	10.92	10.83	10.76	10.42	10.15	9.87
I	dif.***		.26	.35	.42	.76	1.03	1.31
11.18	t-test		.554	.736	.818	1.625	2.198**	2.796**
VII	dif.	-.26		.09	.16	.50	.77	1.05
10.92	t-test	.554		.176	.306	1.037	1.591	2.170**
IV	dif.	-.35	-.09		.07	.41	.68	.96
10.83	t-test	.736	.176		.145	.860	1.415	1.994*
VI	dif.	-.42	-.16	-.07		.34	.61	.89
10.76	t-test	.818	.306	.145		.640	1.146	1.675
II	dif.	-.76	-.50	-.41	-.34		.27	.55
10.42	t-test	1.625	1.037	.860	.640		.555	1.133
III	dif.	-1.03	-.77	-.68	-.61	-.27		.28
10.15	t-test	2.198**	1.591	1.415	1.146	.555		.579
V	dif.	-1.31	-1.05	-.96	-.89	-.55	-.28	
9.87	t-test	2.796**	2.170**	1.994*	1.675	1.133	.579	

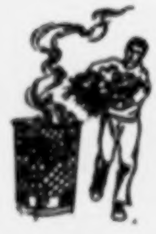
Independent control variables: Metro total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Metropolitan, "Listening"







"Test 2. Listening. This is a test of the pupil's ability to comprehend phrases and sentences instead of individual words. It is a test of sustained attention or attention span wherein the pupil must select from three pictures the one which portrays a situation or event the examiner describes briefly."

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[1] Metropolitan Readiness Tests, Manual of Directions, op. cit., p. 2.

Midyear Test Results

Comprehension: Metropolitan, "Listening"
(Listening involving word meaning in context and
following directions)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods III and VI would rank high in this subtest which tested both the pupil's ability to understand word meaning in context and to follow directions. In both of these methods considerable attention was given to comprehension and to detail.

2. Method VII would score higher than Method V because of the attention given to the careful examination of pictures in the Language lessons of Method VII.

3. Method I would score higher than Method V because less time would be spent in this type of listening activity in Method V than in Method I.

Results:

Method I was significantly higher than Methods III and V at the 1% level.
Method VII was significantly higher than Method V at the 1% level.
Method IV was significantly higher than Method V at the 5% level.

Comments:

The hypothesis that Method VII and I would score higher than Method V proved correct. However, contrary to our expectation, Methods III and VI did not rank high. In fact, Method I proved significantly higher than Method III.

TABLE 13
Midyear Test Results

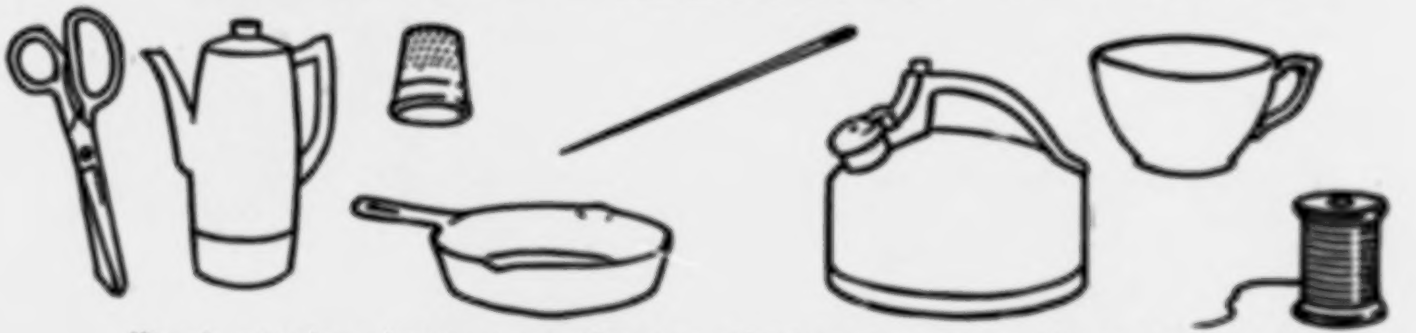
Comprehension: Pintner-Cunningham, "Common Observation"
(Classification)

Method Adjusted		III Lit.	II Letter Sounds	V Lang./ L.S.	VI Lang./ Lit.	IV Sk.Dev.	VII Lang./ Sk.Dev.	I Lang.
Mean		8.08	7.91	7.75	7.75	7.72	7.71	7.54
III	dif.***		.17	.33	.33	.36	.37	.54
8.08	t-test		.692	1.350	1.257	1.496	1.520	2.313**
II	dif.	-.17		.16	.16	.19	.20	.37
7.91	t-test	.692		.658	.626	.803	.828	1.598
V	dif.	-.33	-.16		.0	.03	.04	.21
7.75	t-test	1.350	.658		.025	.145	.170	.918
VI	dif.	-.33	-.16	.0		.03	.04	.21
7.75	t-test	1.257	.626	.025		.107	.130	.808
IV	dif.	-.36	-.19	-.03	-.03		.01	.18
7.72	t-test	1.496	.803	.145	.107		.025	.768
VII	dif.	-.37	-.20	-.04	-.04	-.01		.17
7.71	t-test	1.520	.828	.170	.130	.025		.742
I	dif.	-.54	-.37	-.21	-.21	-.18	-.17	
7.54	t-test	2.313**	1.598	.918	.808	.768	.742	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Pintner-Cunningham, "Common Observation"



"Look at the pictures at the top of the page. . . .We are going to put some marks on some of the pictures, but not on all of them. Let's mark the things that Mother uses when she sews her apron. Can you find the scissors? . . .Mark just the scissors and not anything else. . . .Now we are going to look for something else that she would need to use in sewing her apron. She would not need a coffeepot. We must not mark it. Would she need a thimble? Yes, mark it. . . .Now look at the rest of the pictures on this page. These pictures show some things that have feathers and some that do not have feathers. Find all the things that have feathers, and mark them. Go ahead! (Time, 30 seconds.)"[1]

---

[1] Pintner-Cunningham Primary Test, "Manual of Directions and Key." op. cit., p. 4.

Midyear Test Results

Comprehension: Pintner-Cunningham, "Common Observation" (Classification)

Method I:	Language		
Method II:	Letter Sounds	Method V:	Language/Letter Sounds
Method III:	Literature	Method VI:	Language/Literature
Method IV:	Skills Development	Method VII:	Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods IV and VII would score at the top in this particular skill since experience with this type of activity had been more direct in these methods than in any other.

2. Method III was also expected to score well because of the training in associating like types of things in working with concepts such as "What is round."

3. Method VI was expected to score in the middle, but slightly lower than Method III, because less time had been given to this type of activity in Method VI than in Method III.

4. Method I, although not receiving direct training in this type of activity, had some related activities and therefore was expected to figure somewhat below the middle.

5. Methods II and V, having no direct training in this type of activity, were expected to rank low.

Results:

Method III was significantly better than Method I at the 1% level.

Comments:

Contrary to our expectations, Methods IV and VII did not rank high on this test. The only significant difference in any of the scores was that Method III was significantly better than Method I. Also contrary to our expectations, Methods II and V ranked 2nd and 3rd respectively rather than at the bottom as had been predicted, although again, these differences were not significant. The prediction for Method VI proved accurate. That for Method I did not, as Method I scored low on this test.

TABLE 14
Midyear Test Results

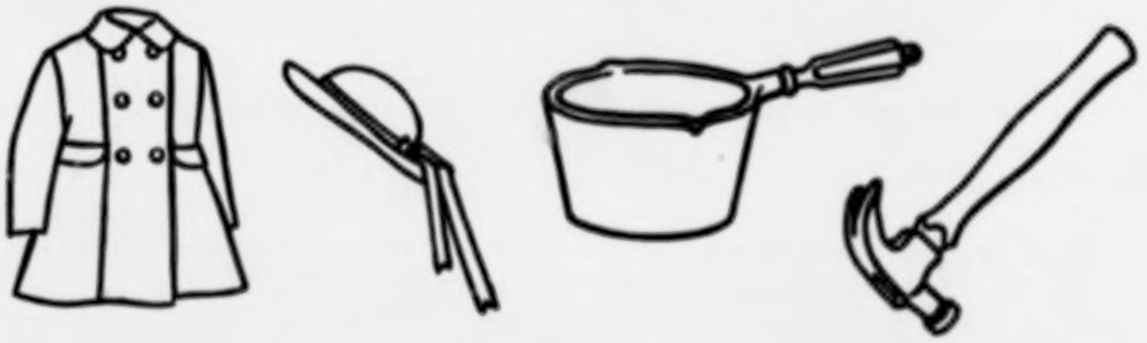
Comprehension: Pintner-Cunningham, "Associated Objects"
(Word Associations)

Method Adjusted Mean		VII Lang./ Sk.Dev.	II Letter Sounds	VI Lang./ Lit.	IV Sk.Dev.	I Lang.	III Lit.	V Lang./ L.S.
		5.73	5.60	5.58	5.55	5.40	5.19	5.19
VII	dif.***		.13	.15	.18	.33	.54	.54
5.73	t-test		.551	.594	.795	1.474	2.341**	2.336**
II	dif.	-.13		.02	.05	.20	.41	.41
5.60	t-test	.551		.090	.243	.905	1.790*	1.785*
VI	dif.	-.15	-.02		.03	.18	.39	.39
5.58	t-test	.594	.090		.132	.728	1.544	1.538
IV	dif.	-.18	-.05	-.03		.15	.36	.36
5.55	t-test	.795	.243	.132		.653	1.547	1.541
I	dif.	-.33	-.20	-.18	-.15		.21	.21
5.40	t-test	1.474	.905	.728	.653		.944	.938
III	dif.	-.54	-.41	-.39	-.36	-.21		.0
5.19	t-test	2.341**	1.790*	1.544	1.547	.944		.005
V	dif.	-.54	-.41	-.39	-.36	-.21	.0	
5.19	t-test	2.336**	1.785*	1.538	1.541	.938	.005	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.024) df=38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Pintner-Cunningham, "Associated Objects"



"Page 6. Here are pictures of some things that belong together. . . .There are two things that belong together in this row. Let's see if we can find them -- a coat and a hat -- a pan -- a hammer. Put a mark on the hat. Now mark something that belongs with the hat. (Time, 15 seconds.)"[1]

---

[1] Ibid., p. 4.

Midyear Test Results

Comprehension: Pintner-Cunningham, "Associated Objects"
(Word Associations)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods IV and VII, in which the most direct training in this type of skill was given (through the work done in "Thinking Skills"), would probably score higher than the other methods on this subtest.

2. Methods III and VI would fall in the middle range of scores because of the experience they had in examining and developing pictures thoughtfully.

3. Method I, although working with this type of skill in a larger framework, would not have had the specifically directed experiences of Methods IV and VII and therefore would rank below Methods IV and VII.

4. Methods V and II were expected to score low because no direct training was given in this skill except what Method V received through the Language portion of the method.

Results:

Method VII was significantly higher than Methods III and V at the 1% level.

Method II was significantly higher than Methods III and V at the 5% level.

Comments:

The hypothesis that Method VII would score high was verified, significantly so in comparison with Methods III and V. Method IV, however, was not significantly superior to any of the methods. Method II, contrary to the hypothesis, was significantly superior to Methods III and V. The hypothesis that Method I would rank below Methods IV and VII proved accurate.

TABLE 15

Midyear Test Results

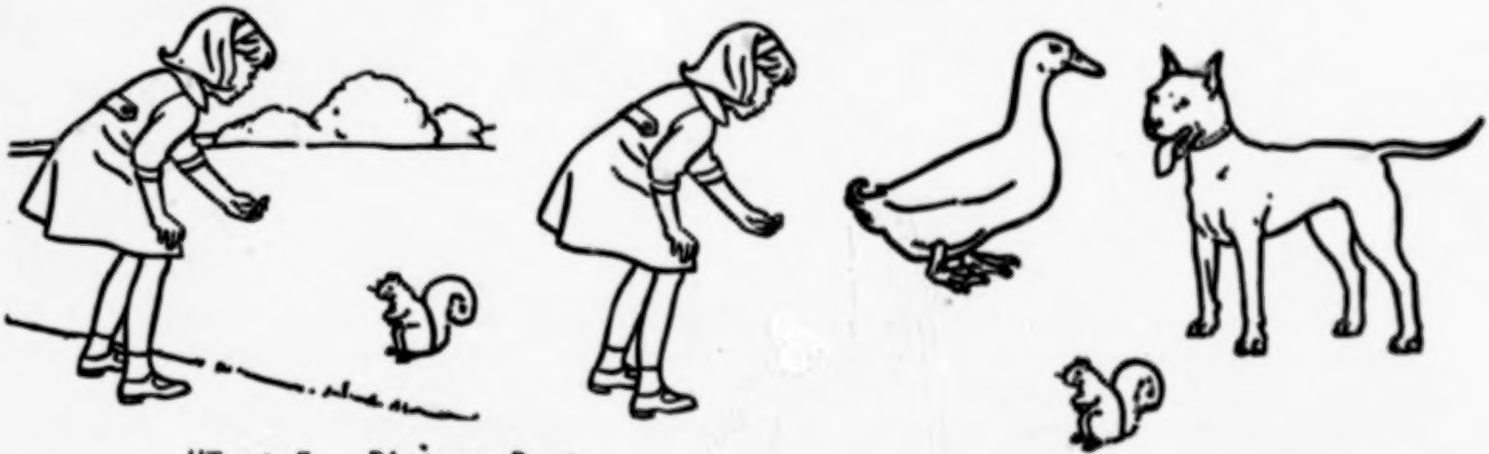
Comprehension: Pintner-Cunningham, "Picture Parts"
(Remembering Detail)

Method Adjusted Mean	IV Sk.Dev.	VII Lang./Sk.Dev.	VI Lang./Lit.	II Letter Sounds	III Lit.	I Lang.	V Lang./L.S.
	12.38	12.33	11.74	11.52	11.21	11.02	10.85
IV dif.***		.05	.64	.86	1.17	1.36	1.53
12.38 t-test		.078	.892	1.315	1.797*	2.141**	2.340**
VII dif.	-.05		.59	.81	1.12	1.31	1.48
12.33 t-test	.078		.820	1.237	1.718*	2.060**	2.261**
VI dif.	-.64	-.59		.22	.53	.72	.89
11.74 t-test	.892	.820		.308	.748	1.027	1.243
II dif.	-.86	-.81	-.22		.31	.50	.67
11.52 t-test	1.315	1.237	.308		.481	.783	1.025
III dif.	-1.17	-1.12	-.53	-.31		.19	.36
11.21 t-test	1.797*	1.718*	.748	.481		.285	.543
I dif.	-1.36	-1.31	-.72	-.50	-.19		.17
11.02 t-test	2.141**	2.060**	1.027	.783	.285		.276
V dif.	-1.53	-1.48	-.89	-.67	-.36	-.17	
10.85 t-test	2.340**	2.261**	1.243	1.025	.543	.276	

Independent control variables: Metro. total raw score; WISC, and T.Q.I.

** .01 level (2.024) df= 38
* .05 level (1.684)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Pintner-Cunningham, "Picture Parts"



"Test 5. Picture Parts
Page 9. Put your finger on the little picture of a girl and a squirrel. . . .Put a mark on the little girl who is looking at a squirrel. . . . Now find another little girl just like her. Mark her. . . .Find one other thing outside the little picture that is just like something in the little picture, and mark it. (Time, 30 seconds.)"[1]

---

[1] Ibid., p. 4

Midyear Test Results

Comprehension: Pintner-Cunningham, "Picture Parts" (Remembering Detail)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Method VI was expected to rank high on this subtest: a) because of the specifically structured lessons in the Language part of the method and b) because of the story content stressed in both Language and Literature.

2. Method III, although it had not received the specifically structured lessons, was expected to rank high because of the attention given to pictorial detail and art work in this method.

3. Methods IV and VII were expected to rank next because of the direct and continuous training given in these methods to detail in the skills work.

4. Method I, though including some direct training in examining pictures closely, divided its time with the other communication areas and thus was not expected to rank as high as VI and III.

5. Methods V and II were again ranked low on this skill as there was no direct training except in certain portions of the language lessons.

Results:

Method IV was significantly higher than Methods III at the 5% level, and Methods I and V at the 1% level.

Method VII was significantly higher than Methods I and V at the 1% level and than Method III at the 5% level.

Comments:

Contrary to expectations, Methods III and VI did not rank high. Methods IV and VII moved to top position in the final results and were significantly higher than Methods I and V. Method IV was also significantly higher than Method III.

TABLE 16

Summary of Direction of Adjusted Mean Differences Among All Methods: Mid-year Tests

Method	I Lang.	II Letter Sounds	III Lit.	IV Sk.Dev.	V Lang./ L.S.	VI Lang./ Lit.	VII Lang./ Sk.Dev.
I		+++++ ●●-- --	+●●● +●+ -●●-	●●++ ●--● --●	++●++ --- ---	●++++ --● ---	+++ ●-●- ----
II	●●++ ++ -----		●●●+ +++● ---	●++● ●●-- ---	++++ +++● ---	+●++ +++ ----	+++ ●--- ----
III	●●++ -●●● -●-	+++ ●●●● ----		+++ ●-●● ●--●	+++++ --●● ●-	+++ ---- ----	+ ●---● ●●-●●
IV	●+●+ ++● ●●--	+●●+ +++ ●●--	●+●● ●++● ---		●++● ●+● ●●--	++●+ +++ ●---	++++● ●●-- --
V	+++ +++ --●--	+++ ---- --●-	++● ●●+ -----	●●++ ●-●- ●-●		●++++ --- ---	+++ ---- -●●●
VI	●++ +++ ●----	++++ -●-- ---	++++ ++++ ---	●+++ --●- ---	++++ ++ ●----		+ ----- ●----
VII	●+●+ ++++ ---	●+++ ++++ ---	●+++● ●●●+● -	●++● ++ --●--	++++ +●●● ---	+++●+ +++++ -	

● .05 level or better

The plus signs indicate a superiority of the method at the left. The minus signs indicate superiority of the method listed at the top of the column.

TABLE 17

Number of Times the Adjusted Mean for a Given Method was Superior to Another Method on Each Mid-Year Test and On the Total Battery

Tests	Methods						
	I Lang.	II L.S.	III Lit.	IV S.D.	V L/L.S.	VI L/Lit.	VII L/S.D.
Metropolitan Matching	0	4	1	6	2	3	5
Metropolitan Copying	3	0	1	6	2	4	5
Pintner-Cunningham Dot-Drawing	0	2	4	6	1	3	5
Murphy-Durrell Letter Names-Caps.	5	4	2	0	6	1	3
Murphy-Durrell Letter Names-lower	3	6	1	0	5	2	4
Murphy-Durrell Phonemes-Part I	3	2	0	4	5	1	6
Murphy-Durrell Phonemes-Part II	6	3	0	4	2	1	5
Metropolitan Listening	6	2	1	4	0	3	5
Pintner-Cunningham Common Observation	0	5	6	2	4	3	1
Pintner-Cunningham Associated Objects	2	5	1	3	0	4	6
Pintner-Cunningham Picture Parts	1	3	2	6	0	4	5
Total	29	36	19	41	27	29	50

Midyear: Summary Statement

1. Method VII (Language/Skills Development), which had the most direct training in the skills tested on the midyear tests, had the greatest number of positive differences. Fifteen were significant.

2. Method IV (Skills Development), which also had much of the same direct training as Method VII in many of the skills tested on the midyear tests, had the next greatest number of positive differences. Sixteen were significant.

3. Method VII (Language/Skills Development) and Method IV (Skills Development) each had more significant differences than any other method.

4. Method II (Letter Sounds), which involved direct training of certain of the skills tested at midyear, had the next greatest number of positive differences over all other methods.

5. Method I (Language), Method V (Language/Letter Sounds), and Method VI (Language/Literature) ranked next. These methods involved some direct and some indirect teaching of the skills tested at midyear.

6. Method III (Literature), which involved only indirect teaching of the skills tested at midyear, had the least number of positive differences.

7. Method III (Literature) and Method VI (Language/Literature), the two methods which involved mainly indirect teaching of the skills tested on the midyear tests, had the least number of significant differences.

Comment: It would appear from these results that certain skills can be directly taught and that if a test tests the skill which has been directly taught, the test results will be correspondingly positive for those skills which had been directly taught.

End-of-year (Group): General Comment: As prescribed by the National Coordinating Committee, the Stanford Achievement Test, Primary I Battery, Form X, was administered to all research pupils at the conclusion of the 140-day instructional period. The end-of-year test results include only the scores of the 309 pupils who completed all subtests on both the September and May testing. As in the midyear reporting, the tables presenting the results are included with the discussion of hypotheses regarding each particular subtest, the actual results, and comments. The headings of the end-of-year tests also specify, as did the midyear headings, the time and commercial title as well as the name of the subtest, and whether the results are for the total population or for the intensive sample.

I.e., End-of-year Test Results (Group)
Stanford Achievement Test: Word Reading

Particular attention should perhaps be given to the subtest entitled "Paragraph Meaning," as this is purported to more nearly approximate what is involved in the act of reading than any of the other subtests. It is also interesting to note that these low group pupils had a grade equivalent of 1.5 on the SAT after working in "formal" reading materials less than three months. Grade placement at time of testing was 1.8.

End-of-year (Group): SAT Statistical Treatment. An analysis of covariance was performed for each of the five subtests of the Stanford Achievement Test (arithmetic not included) using group means obtained within each of the seven methods. The control variables used were: total raw score of the Metropolitan Readiness Tests, Form A; WISC Verbal; and TQI. The resulting data, as well as the hypotheses made before analysis of the data was undertaken, is shown in the succeeding presentation of the results of each subtest.

TABLE 18
End-of-year Test Results

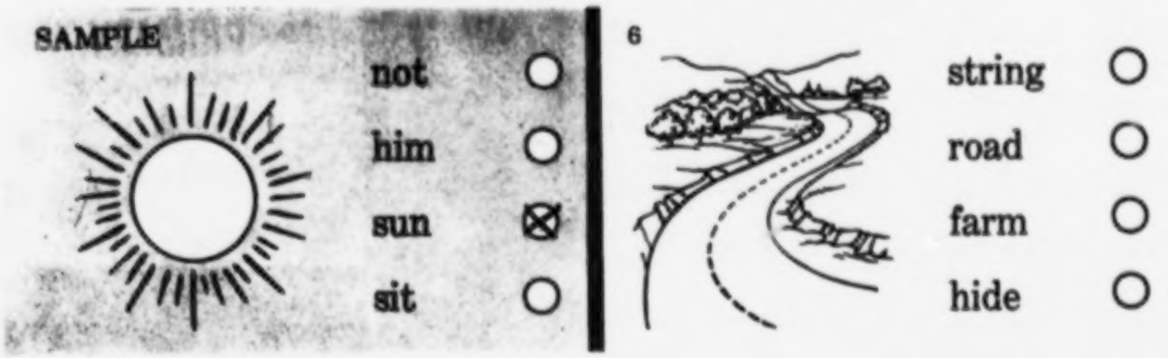
Group: Stanford Achievement Test, Word Reading

Method Adjusted Mean		V Lang./ L.S.	I Lang.	VII Lang./ Sk.Dev.	IV Sk.Dev.	II Letter Sounds	III Lit.	VI Lang./ Lit.
		15.43	15.17	15.06	14.71	14.70	14.00	13.71
V	dif.***		.26	.37	.72	.73	1.43	1.72
15.43	t-test		.233	.295	.625	.639	1.251	1.378
I	dif.	-.26		.11	.46	.47	1.17	1.46
15.17	t-test	.233		.091	.428	.443	1.100	1.243
VII	dif.	-.37	-.11		.35	.36	1.06	1.35
15.06	t-test	.295	.091		.290	.303	.884	1.04
IV	dif.	-.72	-.46	-.35		.01	.71	1.00
14.71	t-test	.625	.428	.290		.015	.651	.831
II	dif.	-.73	-.47	-.36	-.01		.70	.99
14.70	t-test	.639	.443	.303	.015		.636	.818
III	dif.	-1.43	-1.17	-1.06	-.71	-.70		.28
14.00	t-test	1.251	1.100	.884	.651	.636		.237
VI	dif.	-1.72	-1.46	-1.35	-1.00	-.99	-.28	
13.71	t-test	1.378	1.243	1.04	.831	.818	.237	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.030)　　　　df=35
* .05 level (1.690)
*** differenc e=mean (col.) minus mean (row)

Sample Test Item from SAT Word Reading



"The Word Reading Test consists of 35 items, graduated in difficulty, which measure the ability of a pupil to analyze a word without the aid of context. The test employs a multiple-choice type of item in which the pupils are required to look at a picture and then select the word which stands for the picture from a group of four words. For example, a pupil may see a picture of the sun and see the words -- 'not, him, sun, sit.' He must read the words and mark the one which means 'sun.' In doing this, he responds to more than a single sound element."[1]

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[1] Stanford Achievement Test, "Directions for Administering Primary I Battery," op. cit., p. 4.

End-of-year Test Results (Group)

Stanford Achievement Test, Word Reading

Method I:	Language		
Method II:	Letter Sounds	Method V:	Language/Letter Sounds
Method III:	Literature	Method VI:	Language/Literature
Method IV:	Skills Development	Method VII:	Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods V and II would probably rank high since it would seem that a knowledge of letter sound association would be a valuable clue in choosing the correct answer.

2. Method I would rank high because of the direct training given in word reading coupled with the reinforcement of writing words.

3. Methods III and VI would rank in the middle because their experience with words had been reading words in context, although Method VI would probably rank higher than Method III because of the additional reinforcement of writing words.

4. Methods IV and VII would rank low. Method VII had association with word reading only through the Language part of the Method. Method IV had no direct training in word reading at all.

Results:

No methods proved significantly better than any others. The actual rank of the various methods on the subtests was as follows: V, I, VII, IV, II, III, VI.

Comments:

Although none of the scores proved significantly better than any others, consideration of the ranking of the methods may provide insights. The hypothesis that Method V would rank high proved correct, although the hypothesis that Method II would rank high did not prove out, as its rank was somewhat below the middle. The hypothesis that Method I would rank high was also justified, as it ranked second among the methods.

Hypotheses 3 and 4 did not prove accurate. In fact, the predicted positions were almost reversed in that Method III and VI ranked low and Methods VII and IV held a middle ranking.

TABLE 19
End-of-year Test Results

Group: Stanford Achievement Test, Paragraph Meaning

Method		III Lit.	I Lit.	V Lang/ L.S.	VII Lang./ L.S.	IV Sk.Dev.	II Letter Sounds	VI Lang./ Lit.
Adjusted Mean		12.76	12.55	12.02	11.35	10.81	10.46	10.41
III	dif.***		.21	.74	1.41	1.95	2.30	2.35
12.76	t-test		.151	.498	.896	1.357	1.603	1.493
I	dif.	-.21		.53	1.20	1.74	2.09	2.14
12.55	t-test	.151		.368	.784	1.251	1.506	1.397
V	dif.	-.74	-.53		.67	1.21	1.16	1.61
12.02	t-test	.498	.368		.409	.806	1.042	.986
VII	dif.	-1.41	-1.20	-.67		.54	.89	.94
11.35	t-test	.896	.784	.409		.343	.568	.553
IV	dif.	-1.95	-1.74	-1.21	-.54		.35	.40
10.81	t-test	1.357	1.251	.806	.343		.246	.254
II	dif.	-2.30	-2.09	-1.16	-.89	-.35		.05
10.46	t-test	1.603	1.506	1.042	.568	.246		.029
VI	dif.	-2.35	-2.14	-1.61	-.94	-.40	-.05	
10.41	t-test	1.493	1.397	.986	.553	.254	.029	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.030)　　df=35
* .05 level (1.690)
*** difference=mean (col.) minus mean (row)

Sample Test Item from SAT Paragraph Meaning

I play with my new toy.
It is a __1__.

1　bell　something　little　play

See the blue car go.
It can go __2__.

2　see　fast　want　blue

Our cat does not like birds.
He will eat them.
We make him wear a __38__.

38　ribbon　blanket　hat　bell

"The Paragraph Meaning Test consists of a series of paragraphs, graduated in difficulty, from each of which one or more words have been omitted. The pupil's task is to demonstrate his comprehension of the paragraph by selecting the proper word for each omission from four choices that are afforded him. The test thus provides a functional measure of the child's ability to comprehend connected discourse ranging in length from single sentences to paragraphs of six sentences and involving levels of comprehension varying from extremely simple recognition to the making of inferences from several related sentences."[1]

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[1] Ibid., p. 4.

End-of-year Test Results (Group)

Stanford Achievement Test, Paragraph Meaning

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Of the "straight" methods, Method I would rank above Methods II and IV because of the exposure to more actual reading experiences.

2. The position of Method III might go either high or low depending upon one's line of reasoning: a) It might be said that Method III had not had the direct learning of the skills of individual word identification which Methods II and V had had and might therefore rank low for want of being able to decode the words, or b) It might be predicted that the pupils of Method III would rank high on the subtest because of more time spent in a functional reading experience.

3. Of the combination methods, Methods V and VI, because they were given more exposure to actual reading experiences, would rank higher than Method VII; although Method VII's position could easily shift depending on how much of the "Thinking Skills" work was completed.

Results:

No methods proved significantly better than any others. The actual rank of the various methods on the subtests were as follows: III, I, V, VII, IV, II, VI.

Comments:

Although none of the scores proved significantly better than any others, consideration of the ranking of the methods may provide insights.

Method I did rank higher than Methods II and IV as predicted.

Hypothesis 2 (b) proved accurate as to the ranking of Method III in that it ranked higher than all other methods.

The third hypothesis was only half accurate. True to the prediction, Method V did rank higher than Method VII. Method VI did not rank higher than Method VII as had been expected.

TABLE 20

End-of-year Test Results

Group: Stanford Achievement Test, Vocabulary

Method Adjusted Mean		II Letter Sounds	III Lit.	V Lang./ L.S.	VII Lang./ Sk.Dev.	I Lang.	IV Sk.Dev.	VI Lang./ Lit.
		18.69	18.18	17.60	17.29	17.21	17.07	16.87
II	dif.***		.51	1.09	1.40	1.48	1.62	1.82
18.69	t-test		.407	.841	1.022	1.220	1.293	1.327
III	dif.	-.51		.58	.89	.97	1.11	1.31
18.18	t-test	.407		.450	.650	.799	.886	.955
V	dif.	-1.09	-.58		.31	.39	.53	.73
17.60	t-test	.841	.450		.215	.303	.402	.511
VII	dif.	-1.40	-.89	-.31		7.78	.22	.42
17.29	t-test	1.022	.650	.215		.583	.159	.283
I	dif.	-1.48	-.97	-.39	-7.78		.14	.34
17.21	t-test	1.220	.799	.303	.583		.116	.256
IV	dif.	-1.62	-1.11	-.53	-.22	-.14		.20
17.07	t-test	1.293	.886	.402	.159	.116		.147
VI	dif.	-1.82	-1.31	-.73	-.42	-.34	-.20	
16.87	t-test	1.327	.955	.551	.283	.250	.147	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.030) df=35
* .05 level (1.690)
*** difference=mean (col.) minus mean (row)

Sample Test Items from SAT Vocabulary

5		13	
university	○	bright	○
prison	○	strange	○
library	○	old	○

"The Vocabulary Test employs a multiple-choice type of item in which the pupil is required to select from a series of three alternatives the proper answer to a question or a statement read by the teacher. In addition to items measuring knowledge of synonyms, of simple definitions, and of ready associations, the test includes items designed to measure higher-level comprehension of the concepts represented by words, and fullness of understanding of terms. The Vocabulary Test measures a pupil's vocabulary independent of his reading skill."[1]

---

[1] Ibid., p. 4.

End-of-year Test Results (Group)

Stanford Achievement Test, Vocabulary

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

The difficulty level of this test for the low group pupils precluded any reasonable assessment or ranking. However, because of the training given in making letter sound associations (which would be a valuable clue in figuring out some of the words) it was predicted that Methods II and V would rank higher, for example, than Methods IV and VII in which no such training with letters or words had been given.

Results:

No methods proved significantly better than any others.

The actual rank of the various methods on the subtests were as follows: II, III, V, VII, I, IV, VI.

Comments:

Although none of the scores proved significantly higher than any others, consideration of the ranking of the methods may provide insights.

As had been predicted, Methods II and V did rank higher than Methods IV and VII.

TABLE 21
End-of-year Test Results

Group: Stanford Achievement Test, Spelling

Method		I Lang.	VII Lang./ Sk.Dev.	IV Sk.Dev.	III Lit.	V Lang./ L.S.	II Letter Sounds	VI Lang./ Lit.
Adjusted Mean		6.55	5.96	5.85	5.68	5.56	5.10	5.10
I	dif.***		.59	.70	.87	.99	1.45	1.45
6.55	t-test		.408	.539	.668	.727	1.110	1.006
VII	dif.	-.59		.11	.28	.40	.86	.86
5.96	t-test	.408		.789	.193	.264	.584	.539
IV	dif.	-.70	-.11		.17	.29	.75	.75
5.85	t-test	.539	.789		.125	.204	.553	.503
III	dif.	-.87	-.28	-.17		.12	.58	.58
5.68	t-test	.668	.193	.125		.084	.428	.389
V	dif.	-.99	-.40	-.29	-.12		.46	.46
5.56	t-test	.727	.264	.204	.084		.327	.299
II	dif.	-1.45	-.86	-.75	-.58	-.46		.0
5.10	t-test	1.110	.584	.553	.428	.327		.002
VI	dif.	-1.45	-.86	-.75	-.58	-.46	.0	
5.10	t-test	1.006	.539	.503	.389	.299	.002	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.030) df=35
* .05 level (1.690)
*** difference=mean (col.) minus mean (row)

Sample Test Items from SAT, Spelling

19 ____________________

20

"Spelling ability is measured in the Primary I Battery by means of a 20-item test.

"In this battery the Spelling Test employs a dictation-type exercise -- one in which the word to be spelled is pronounced by the teacher, an illustrative sentence is read, and the word is repeated, whereupon the pupil writes the word in his test booklet."[1]

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[1] Ibid., p. 4.

End-of-year Test Results (Group)

Stanford Achievement Test, Spelling

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Method V would rank high because the nature of its instructional content: letter sound associations and language experiences including handwriting.
2. Method VI would rank high because of the experience the pupils would have in exposure to the text of many stories in addition to the reinforcement of spelling and writing in the language part of the program.
3. Method I would rank high because of the direct experience in spelling which the children were given.
4. Methods III and IV would rank lower than Methods V, VI, and I, because the pupils would not have the direct experience in spelling and the reinforcement of writing.
5. The relative rank of Methods II and VII might vary considerably, although it was predicted that Method VII would rank higher than Method II because of the experience in writing and spelling which the pupils were given in the language part of Method VII.

Results:

No methods proved significantly better than any others. The actual rank of the various methods on the subtests was as follows: I, VII, IV, III, V, II, VI.

Comments:

Although none of the scores proved significantly better than any others, it is perhaps noteworthy that only hypotheses 3 and 5 proved entirely accurate. Methods V and VI did not rank high, but on the contrary, both methods ranked lower than the median. Methods III and IV did not rank lower than Methods V and VI.

TABLE 22

End-of-year Test Results

Group: Stanford Achievement Test, Word Study Skills

Method Adjusted mean		I Lang.	V Lang./ L.S.	VII Lang./ Sk.Dev.	IV Sk.Dev.	II Letter Sounds	III Lit.	VI Lang./ Lit.
		30.06	29.70	29.08	28.77	27.68	27.58	26.56
I 30.06	dif.***		.36	.98	1.29	2.38	2.48	3.50
	t-test		.197	.514	.744	1.368	1.427	1.830*
V 29.70	dif.	-.36		.62	.93	2.02	2.12	3.14
	t-test	.197		.307	.500	1.081	1.136	1.548
VII 29.08	dif.	-.98	-.62		.31	1.40	1.50	2.52
	t-test	.514	.307		.157	.709	.761	1.187
IV 28.77	dif.	-1.29	-.93	-.31		1.09	1.19	2.21
	t-test	.744	.500	.157		.604	.661	1.125
II 27.68	dif.	-2.38	-2.02	-1.40	-1.09		.11	1.13
	t-test	1.368	1.081	.709	.604		.568	.573
III 27.58	dif.	-2.48	-2.12	-1.50	-1.19	-.11		1.02
	t-test	1.427	1.136	.761	.661	.568		.521
VI 26.56	dif.	-3.50	-3.14	-2.52	-2.21	-1.13	-1.02	
	t-test	1.830*	1.548	1.187	1.125	.573	.521	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (2.030) df=35
* .05 level (1.690)
*** difference=mean (col.) minus mean (row)

Sample Test Items from SAT Word Study Skills

"1. climb apple letter

Auditory perception of beginning sounds -- 14 items. In this part a pupil hears one word read by the teacher. Then he reads with the teacher three other words from which he must select one whose beginning sound is the same as the word the teacher read first.[1]

15. mad mud made

Auditory perception of ending sounds -- 14 items. In the second part, the word to be chosen has the same ending sound as a word which the pupil hears.[1]

29. peek seek week

Phonics -- selecting the written word which is the same as the last word in a sentence read by the teacher -- 14 items. In this part a pupil must match a word he hears with one of three which he reads.[1]

43. stand stop stood

Phonograms -- rhyming words -- 14 items. A pupil must match a word he hears with a word which he reads."[1]

---

[1] Ibid., p. 5.

End-of-year Test Results (Group)

Stanford Achievement Test, Word Study Skills

Method I:	Language		
Method II:	Letter Sounds	Method V:	Language/Letter Sounds
Method III:	Literature	Method VI:	Language/Literature
Method IV:	Skills Development	Method VII:	Language/Skills Development

Expectations:

It was hypothesized that:

1. Method I would rank near the top because of the direct study on letter sound association, writing, and spelling of words. It should be noted that the direct study of letter sound associations was less intensive than in Methods II and V.
2. Methods II and V would rank high because of their direct study of words and letter sound association.
3. Methods III, IV, and VI would rank low because these methods did not have direct training in the types of word study skills being tested in this subtest.
4. Method VII's position would depend upon the weight which a concentration of auditory and visual skills would add to the study of words which these pupils received in the language part of the method.

Results:

Method I proved significantly better than Method VI at the 5% level. The actual rank of the various methods on the subtests was as follows: I, V, VII, IV, II, III, VI.

Comments:

The hypothesis that Method I would rank high on this subtest proved accurate, significantly so in comparison with Method VI. The prediction that Method II would rank high was not accurate in that Method II ranked below the middle. However, Method V did rank second from the top. Methods III, IV, and VI did rank low.

Method VII ranked third on this subtest.

TABLE 23

Summary of Direction of Adjusted Differences
Among All Methods -- End-of-year SAT Group

Method	I Lang.	II Letter Sounds	III Lit.	IV Sk.Dev.	V Lang./ L.S.	VI Lang./ Lit.	VII Lang./ Sk.Dev.
I		++++ -	+++ --	+++++	+++ --	++++●	++++ -
II	+ ----		+++ --	+ ----	+ ----	+++++	+ ----
III	++ ---	++ ---		++ ---	+++ --	+++++	++ ---
IV	-----	++++ -	+++ --		+ ----	+++++	-----
V	++ ---	++++ -	++ ---	++++ -		+++++	++++ -
VI	----●	-----	-----	-----	-----		-----
VII	+ ----	++++ -	+++ --	+++++	+ ----	+++++	

● .05 or better

The plus signs indicate a superiority of the method at the left. The minus signs indicate superiority of the method listed at the top of the column.

TABLE 24

Number of times the Adjusted Mean for a given Method Was Superior to Another Method on SAT (Group) Subtests and on the Total Battery

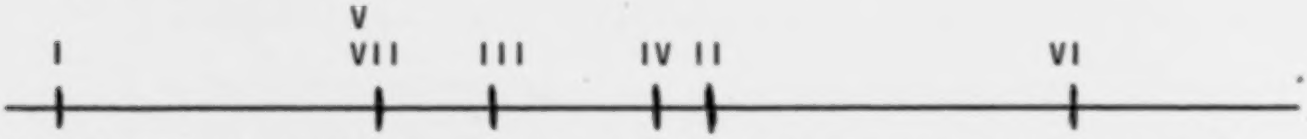
Subtests	Methods						
	I	II	III	IV	V	VI	VII
WR*	5	2	1	3	6	0	4
PM	5	1	6	2	4	0	3
V	2	6	5	1	4	0	3
S	6	1	3	4	2	0	5
WSS	6	2	1	3	5	0	4
Total	24	12	16	13	21	0	19

*WR - Word Reading
PM - Paragraph Meaning
V - Vocabulary
S - Spelling
WSS - Word Study Skills

End-of-year (Group): SAT: Summary Statement

1. Only one significant difference appeared: Method I (Language) was significantly superior to Method VI (Language/Literature) in Word Study Skills.

2. In a total consideration of the SAT scores, the rank of the methods and their scaled value reflecting placement with respect to the total SAT score was as follows, reading from high to low:



3. In a more detailed analysis of the rankings on the subtests which would seem to be most nearly related to an indication of reading achievement, some interesting trends appear. The rankings, in order of superiority from left to right, were as follows:

Word Reading:	V I	VII IV II	III VI
Paragraph Meaning:	III I	V VII IV	II VI
Spelling:	I VII	IV III V	II VI

Attention should be called, first of all, to the high rank of Method III (Literature) on the Paragraph Meaning subtest. It should be remembered that Method III had the least number of positive differences on the midyear tests. It was also pointed out in the midyear summary statement that Method III had had perhaps the most indirect learning approach of any of the methods so far as skills tested at midyear were concerned. But on this end-of-yeartest, in which the skill of reading and interpreting the content of paragraphs was concerned, the training in Method III appeared to be closely related to reading (these pupils were concerned with handling books and learning through a functional approach from their first lessons). This again supports the statement made in the midyear summary, namely, that certain skills can be directly taught and that if a test tests the skill which has been directly taught, the test results will be correspondingly positive for those skills which have been directly taught.

This leads to further consideration of direct versus indirect teaching. In "Paragraph Meaning," Methods III, I, and V ranked high in that order. The rationale possibly underlying the position of Method III, has been discussed. Likewise, pupils in Method I (Language), having had a broad program which included direct experience in writing, and reading following writing, might be expected to reflect this direct teaching in a correspondingly high score in "Paragraph Meaning," which they did.

Method V (Language/Letter Sounds), although not having the same kind of functional reading experience as that of Method III (Literature), did have direct teaching of letter sound association coupled with portions of the broad language program including reading and writing. Method V could perhaps thus be said to incorporate a more direct reading experience than, for example, Method IV, in which no direct experience with reading words was given during the first semester. It seems logical to find Method V ranking relatively high on "Paragraph Meaning."

Again, in the "Word Reading" subtest (which presented words in isolation with only the use of pictures as a context clue), the relative rankings of the various methods tended to support the thesis that those methods which had had direct training in an activity would rank high. Method III, not having direct training in this type of work, ranked high.

In the subtest, "Spelling," in which Method I (Language), and Method VII (Language/Skills Development) and Method IV (Skills Development), ranked first, second, and third, respectively, there again appears to be something to say for the directness of the teaching. The concentrated attention to detail, given in Methods VII and IV, might be said to constitute direct teaching.

It should also be noted in considering the rankings, that, with the exception of Method VI, the combination methods were always higher than their companion "straight" method. It would thus seem that the addition of the language to the base method strengthened the method in every case.

4. On the subtest, "Spelling," it is noted that Methods V and II ranked relatively low. Intensive learning of consonant sound-letter associations may have introduced an interfering factor for these pupils.

5. Some explanation seems to be in order as to the consistently low ranking of Method VI (Language/Literature). Every method was superior to Method VI in all five subtests of the SAT. This seems inconsistent with the high rankings of its two component methods, Language and Literature. One possible explanation lies in the fact that the teachers of Method VI were at liberty to choose from the literature lessons those which they thought most beneficial for their group. One might conjecture that such open choice might not always provide for necessary reinforcement. A different set of language lessons was also utilized in Method VI, and this may also have been a contributing factor.[1] There is also the possibility that without a highly structured overall view of what was to be included in either of the components, a teacher might have chosen the wrong elements, just as in mixing paints too heavy a squirt of one color might throw off a whole combination.

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[1] The language portion of each of the combination methods was chosen specifically to complement its companion method. Thus, the language lessons for Method V (Language/Letter Sounds) were different from the language lessons for Method VII (Language/Skills Development), and the language lessons for Method VI were different from those for either V or VII.

End-of-year (Intensive Sample): SAT: Statistical Treatment. An analysis of covariance of the individual scores of the 140 pupils comprising the intensive sample was also performed for the five subtests of the Stanford Achievement Test by method. The total raw score of the Metropolitan Readiness Tests, Form A; the WISC Verbal score; and the TQI were used as control variables. The following tables (Tables to), present the mean differences between methods for each of the subtest scores. These results apply to the individual sample only.

TABLE 25

End-of-year Test Results (Intensive Sample)

Stanford Achievement Test, Word Reading

Method Adjusted Mean		I Lang.	V Lang./ L.S.	VII Lang./ Sk.Dev.	III Lit.	II Letter Sounds	IV Sk.Dev.	VI Lang./ Lit.
		15.59	15.56	14.77	14.72	14.65	14.23	13.77
I	dif.***		.03	.82	.87	.94	1.36	1.82
15.59	t-test		.019	.583	.631	.681	.932	1.247
V	dif.	-.03		.79	.84	.91	1.33	1.79
15.56	t-test	.019		.564	.612	.662	.914	1.229
VII	dif.	-.82	-.79		.05	.12	.54	1.00
14.77	t-test	.583	.564		.030	.077	.356	.660
III	dif.	-.87	-.84	-.05		.07	.49	.95
14.72	t-test	.631	.612	.030		.048	.336	.647
II	dif.	-.94	-.91	-.12	-.07		.42	.88
14.65	t-test	.681	.662	.077	.048		.290	.602
IV	dif.	-1.36	-1.33	-.54	-.49	-.42		.46
14.23	t-test	.932	.914	.356	.336	.290		.295
VI	dif.	-1.82	-1.79	-1.00	-.95	-.88	-.46	
13.77	t-test	1.247	1.229	.660	.647	.602	.295	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.
** .01 level (1.981) df=115
* .05 level (1.661)
*** difference=mean (col.) minus mean (row)

TABLE 26
End-of-year Test Results (Intensive Sample)

Stanford Achievement Test, Paragraph Meaning

Method Adjusted Mean		I Lang.	III Lit.	IV Sk.Dev.	II Letter Sounds	VII Lang./ Sk.Dev.	VI Lang./ Lit.	V Lang./ L.S.
		14.83	12.79	11.85	11.71	11.57	10.98	10.80
I	dif.***		2.04	2.98	3.12	3.26	3.85	4.03
14.83	t-test		1.442	1.978*	2.207**	2.242**	2.557**	2.887**
III	dif.	-2.04		.94	1.08	1.22	1.81	1.99
12.79	t-test	1.442		.618	.756	.831	1.190	1.408
IV	dif.	-2.98	.94		.14	.28	.87	1.05
11.85	t-test	1.978*	.618		.092	.181	.541	.695
II	dif.	-3.12	-1.08	-.14		.14	.73	.91
11.71	t-test	2.207**	.756	.092		.097	.481	.642
VII	dif.	-3.26	-1.22	-.28	-.14		.59	.77
11.57	t-test	2.242**	.831	.181	.097		.378	.526
VI	dif.	-3.85	-1.81	-.87	-.73	-.59		.18
10.98	t-test	2.557**	1.190	.541	.481	.378		.117
V	dif.	-4.03	-1.99	-1.05	-.91	-.77	-.18	
10.80	t-test	2.887**	1.408	.695	.642	.526	.117	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.
** .01 level (1.981) df=115
* .05 level (1.661)
*** difference=mean (col.) minus mean (row)

TABLE 27
End-of-year Test Results (Intensive Sample)

Stanford Achievement Test, Vocabulary

Method Adjusted Mean		II Letter Sounds	VII Lang./ Sk.Dev.	III Lit.	V Lang./ L.S.	VI Lang./ Lit.	IV Sk.Dev.	I Lang./
		18.53	18.03	17.66	17.54	16.53	16.22	16.04
II	dif.***		.50	.87	.99	2.00	2.31	2.49
18.53	t-test		.325	.581	.670	1.255	1.450	1.682*
VII	dif.	-.50		.37	.49	1.50	1.81	1.99
18.03	t-test	.325		.240	.322	.917	1.107	1.305
III	dif.	-.87	-.37		.12	1.13	1.44	1.62
17.66	t-test	.581	.240		.081	.709	.903	1.093
V	dif.	-.99	-.49	-.12		1.01	1.32	1.50
17.54	t-test	.670	.322	.081		.640	.837	1.025
VI	dif.	-2.00	-1.50	-1.13	-1.01		.31	.49
16.53	t-test	1.255	.917	.709	.640		.184	.309
IV	dif.	-2.31	-1.81	-1.44	-1.32	-.31		.18
16.22	t-test	1.450	1.107	.903	.837	.184		.112
I	dif.	-2.49	-1.99	-1.62	-1.50	-.49	-.18	
16.04	t-test	1.682*	1.305	1.093	1.025	.309	.112	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.
** .01 level (1.981) df=115
* .05 level (1.661)
*** difference=mean (col.) minus mean (row)

TABLE 28

End-of-year Test Results (Intensive Sample)

Stanford Achievement Test, Spelling

Method Adjusted Mean		I Lang.	IV Sk.Dev.	III Lit.	VII Lang./ Sk.Dev.	V Lang./ L.S.	VI Lang./ Lit.	II Letter Sounds
		7.20	6.33	6.23	6.13	5.73	5.68	5.46
I	dif.***		.87	.97	1.07	1.47	1.52	1.74
7.20	t-test		.546	.652	.700	.999	.956	1.170
IV	dif.	-.87		.10	.20	.60	.65	.87
6.33	t-test	.546		.065	.125	.379	.384	.543
III	dif.	-.97	-.10		.10	.50	.54	.77
6.23	t-test	.652	.065		.066	.334	.341	.510
VII	dif.	-1.07	-.20	-.10		.40	.45	.67
6.13	t-test	.700	.125	.066		.258	.270	.429
V	dif.	-1.47	-.60	-.50	-.40		.05	.27
5.73	t-test	.999	.379	.334	.258		.032	.182
VI	dif.	-1.52	-.65	-.54	-.45	-.05		.22
5.68	t-test	.956	.384	.341	.270	.032		.138
II	dif.	-1.74	-.87	-.77	-.67	-.27	-.22	
5.46	t-test	1.170	.543	.510	.429	.182	.138	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (1.981) df=115

* .05 level (1.661)

*** difference=mean (col.) minus mean (row)

TABLE 29

End-of-year Test Results (Intensive Sample)

Stanford Achievement Test, Word Study Skills

Method Adjusted Mean		I Lang.	V Lang./ L.S.	VII Lang./ Sk.Dev.	III Lit.	II Letter Sounds	IV Sk.Dev.	VI Lang./ Lit.
		30.20	29.65	28.85	28.78	28.02	27.56	26.26
I	dif.***		.55	1.35	1.42	2.18	2.64	3.94
30.20	t-test		.272	.646	.702	1.074	1.221	1.824*
V	dif.	.55		.80	.87	1.63	2.09	3.39
29.65	t-test	.272		.385	.433	.805	.969	1.571
VII	dif.	-1.35	-.80		.07	.83	1.29	2.59
28.85	t-test	.646	.385		.035	.392	.576	1.160
III	dif.	-1.42	-.87	-.07		.76	1.22	2.52
28.78	t-test	.702	.433	.035		.367	.557	1.153
II	dif.	-2.18	-1.63	-.83	-.76		.46	1.76
28.02	t-test	1.074	.805	.392	.367		.212	.808
IV	dif.	-2.64	-2.09	-1.29	-1.22	-.46		1.30
27.56	t-test	1.221	.969	.576	.557	.212		.564
VI	dif.	-3.94	-3.39	-2.59	-2.52	-1.76	-1.30	
26.26	t-test	1.824*	1.571	1.160	1.153	.808	.564	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (1.981) df=115

* .05 level (1.661)

*** difference=mean (col.) minus mean (row)

End-of-year Test Results (Intensive Sample)

Stanford Achievement Test

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

Since the sample of 20 pupils was randomly selected for individual testing, it was assumed that the same hypotheses would apply to the individual sample as had been made for the group analyses. Therefore, the group hypotheses will be considered the basis for this individual consideration.

Results:

1. Word Reading:

No methods proved significantly better than any others. The actual rank of the various methods on this subtest was as follows:
I, V, VII, III, II, IV, VI.

2. Paragraph Meaning:

Method I proved better at the 5% level of significance than Method IV, and at the 1% level Method I was better than Methods II, VII, VI, and V. The actual rank of the various methods on this subtest was as follows:
I, III, IV, II, VII, VI, V.

3. Vocabulary:

Method II was significantly better than Method I at the 5% level. The actual rank of the various methods on this subtest was as follows:
II, VII, III, V, VI, IV, I.

4. Spelling:

There were no significant differences. The actual rank of the various methods on this subtest was as follows:
I, IV, III, VII, V, VI, II.

5. Word Study Skills:

Method I was significantly better than Method VI at the 5% level. The actual rank of the various methods on this subtest was as follows:
I, V, VII, III, II, IV, VI.

Comparison of Group and Intensive Sample Means on SAT. Attention should probably be called to the fact that, except for Method VI, there was not a wide disparity between the final scores of the methods. It thus may be of interest to compare the relative rankings of the methods on the mean SAT group scores with the mean intensive sample (20 pupils per method) scores. Table 30 shows these rankings divided into three groups for visual clarity.

TABLE 30

Comparison of the Relative Ranking of the Total Group Means and the Means of the Intensive Sample on the SAT

Subtests

Word Reading		Paragraph Mng.		Vocabulary		Spelling		Word Study Skills	
Group	Sample	Group	Sample	Group	Sample	Group	Sample	Group	Sample
5	1	3	1	2	2	1	1	1	1
1	5	1	3	3	7	7	4	5	5
7	7	5	4	5	3	4	3	7	7
4	3	7	2	7	5	3	7	4	3
2	2	4	7	1	6	5	5	2	2
3	4	2	6	4	4	2	6	3	4
6	6	6	5	6	1	6	2	6	6

End-of-year (Intensive Sample): SAT: Summary Statement. Assuming this sample to be representative of the total population in each method, it might be conjectured that the results of the intensive sample, which deal with means from individual scores, may actually be a more sensitive measure than means computed from the mean score of each research group. When the total research population was considered, there was only one significant difference between methods, while seven significant differences were found in the intensive sample. The statistically significant differences in the intensive sample occurred in all but one case in Method I over Methods II, IV, V, VI, and VII. The one exception, Method II, was statistically significant over Method I in "Vocabulary."

A comparison of the rank order of the seven methods for the group scores and the individual scores, however, shows a relatively consistent pattern. As shown in Table 30, if a method appeared in the lower half by rank on the group results, it usually appeared in the lower half by rank on the intensive sample results; likewise if it appeared in the upper half on the group results it usually appeared in the upper half of the intensive sample results.

End-of-year (Intensive Sample): Oral Reading Tests: General Comment. The following oral reading tests were administered to 20 pupils randomly selected from each of the seven methods:

Gates Word Pronunciation Test[1]
Gilmore Oral Reading Test[2]
Fry Phonetically Regular Words Oral Reading Test[3]

End-of-year (Intensive Sample): Statistical Treatment. An analysis of covariance was performed for the oral reading tests. The total raw score of the Metropolitan Readiness Test, Form A; the WISC Verbal score; and the TQI were used as control variables.

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[1] Gates, *op. cit.* The pupil is asked to read orally a graded list of words of increasing difficulty.

[2] Gilmore, *op. cit.* The test consists of graded paragraphs which the pupil is asked to read aloud and on which the number of errors is computed for what is called an accuracy score.

[3] Fry, *op. cit.* Fry states in his own research study, "This test is different from the Gates Word Pronunciation Test in that only phonetically regular words are included. The words are roughly graded in order of difficulty according to the vowel sounds used." Cooperative Research Project No. 2745 (New Jersey: Rutgers, 1966), page 12.

TABLE 31
End-of-year Test Results (Intensive Sample)

Gates: Word Pronunciation Test

Method Adjusted Mean		I Lang.	II Letter Sounds	V Lang./L.S.	III Lit.	VI Lang./Lit.	VII Lang./Sk.Dev.	IV Sk.Dev.
		7.33	6.86	6.38	6.29	6.28	5.67	5.62
I	dif.***		.47	.95	1.04	1.05	1.66	1.71
7.33	t-test		.547	1.130	1.211	1.150	1.878*	1.878*
II	dif.	-.47		.48	.57	.58	1.19	1.24
6.86	t-test	.547		.568	.657	.629	1.331	1.351
V	dif.	-.95	-.48		.09	.10	.71	.76
6.38	t-test	1.130	.568		.098	.103	.796	.833
III	dif.	-1.04	-.57	-.09		.01	.62	.67
6.29	t-test	1.211	.657	.098		.011	.693	.733
VI	dif.	-1.05	-.58	-.10	-.01		.61	.66
6.28	t-test	1.150	.629	.103	.011		.642	.683
VII	dif.	-1.66	-1.19	-.71	-.62	-.61		.05
5.67	t-test	1.878*	1.331	.796	.693	.642		.062
IV	dif.	-1.71	-1.24	-.76	-.67	.66	-.05	
5.62	t-test	1.878*	1.351	.833	.733	.683	.062	

Independent control variables: Metro, total raw score, WISC, and T.Q.I.

** .01 level (1.981) df=115
* .05 level (1.661)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Gates: Word Pronunciation Test

1. so
2. we
3. as
4. go
5. the
6. not
7. how
8. may

21. passenger
22. wander
23. interest
24. chocolate
25. dispute
26. portion
27. conductor
28. brightness

"Have the child read the words out loud. Tell him you would like him to try the word again. Continue until ten consecutive words have been missed. As the words become difficult, special care should be taken to encourage the child. The score is one point for each word correctly pronounced on the first trial, one-half point for each word correctly pronounced on the second trial."[1]

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[1] Gates: Word Pronunciation Test, op. cit.

End-of-year Test Results (Intensive Sample)

Gates: Word Pronunciation Test

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods I, V, and VI would rank higher than all other methods: Method I because of the direct attention given to word study, word and sentence reading and writing; Method V because of the concentration on letter sound association plus the broad language approach; and Method VI because it included both actual reading experiences and and broad, directed language study.

2. Method II and VII would rank midway, below Methods I, V and VI, but above Methods III and IV. In Method II, this was predicted due to the detailed letter sound association work which would probably enable the pupils in this method to figure out many of the words in this test more accurately than the pupils in Methods II and IV. In Method VII it was hypothesized that the combination of detailed skills work and broad language experience would better equip the Method VII pupils to more accurately identify a word than the pupils in Methods III and IV.

3. Methods III and IV would score lower than the other methods on this test: Method III because its study of words had been mostly in context with no expectation or training in learning specific words.

Results:

Method I was significantly better than Method VII at the 5% level.
Method I was significantly better than Method IV at the 5% level.
The actual rank of the various methods on the subtests was as follows: I, II, V, III, VI, VII, IV.

Comments:

The hypothesis that Method I would rank high on this test proved accurate, significantly so in the case of Methods VII and IV.

The hypothesis that Method IV would rank low on this test was accurate.

Otherwise, the hypotheses were either only partially fulfilled or were proved totally inaccurate. That is, Method II did rank high while Method VII did not. Method III did rank midway while Method VI did not. Method V ranked higher than had been anticipated.

TABLE 32

End-of-year Test Results (Intensive Sample)

Gilmore, "Accuracy"

Method Adjusted Mean		III Lit.	I Lang.	II Letter Sounds	VI Lang./ Lit.	V Lang./ L.S.	IV Sk.Dev.	VII Lang./ Sk.Dev.
		7.87	6.45	5.90	5.81	4.70	3.45	2.21
III	dif.***		1.42	1.97	2.06	3.17	4.42	5.66
7.87	t-test		.632	.868	.850	1.413	1.827*	2.419**
I	dif.	-1.42		.55	.64	1.75	3.00	4.24
6.45	t-test	.632		.247	.267	.791	1.254	1.835*
II	dif.	-1.97	-.55		.09	1.20	2.45	3.69
5.90	t-test	.868	.247		.035	.534	1.011	1.576
VI	dif.	-2.06	-.64	-.09		1.11	2.36	3.60
5.81	t-test	.850	.267	.035		.465	.924	1.451
V	dif.	-3.17	-1.75	-1.20	-1.11		1.25	2.49
4.70	t-test	1.413	.791	.534	.465		.522	1.076
IV	dif.	-4.42	-3.00	-2.45	-2.36	-1.25		1.24
3.45	t-test	1.827*	1.254	1.011	.924	.522		.499
VII	dif.	-5.66	-4.24	-3.69	-3.60	-2.49	-1.24	
2.21	t-test	2.419**	1.835*	1.576	1.451	1.076	.499	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (1.981) df=115
* .05 level (1.661)
*** difference=mean (col.) minus mean (row)

Sample Test Item from Gilmore Oral Reading Test

1. I see a boy.
He has a dog.
Here is a girl.
I see a cat, too.
The man is Father.
Mother is in the house.

___1. What animal is the boy playing with?
___2. What other animal is there?
___3. Who is the man?
___4. Where is Mother?
___5. Whom else do you see?

TIME_______Seconds

"The test provides measures of accuracy of oral reading, comprehension of material read, and rate of reading. There are two equivalent forms, A and B. Each comprises ten carefully constructed oral reading paragraphs which form a continuous story, and an illustration of characters and events in the paragraphs. There are five comprehension questions for each paragraph. Although administration time will vary somewhat with the grade and reading level of the pupil, in most instances 15-20 minutes will be required. The errors made in reading the paragraphs, the time required for reading each paragraph, and responses to the comprehension questions are recorded, at the time of testing, in an individual Record Blank for each pupil."[1]

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[1] Gilmore Oral Reading Test, Manual of Directions, op. cit., p. 1.

End-of-year Test Results (Intensive Sample)

Gilmore, Accuracy

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods VI, III, and I would rank high due to the direct, functional experience with reading which each of these methods afforded.

2. Methods VII and V would rank near the middle but higher than Method II because of their including directed language experiences.

3. Method II would rank low because the pupils in this method had been exposed to words as a vehicle for learning sound-letter associations but had not had direct experience with reading.

4. Method IV would rank lower than all other methods because the pupils in this method had no experience in reading words.

Results:

Method III ranked significantly higher than Method IV at the 5% level.

Method III ranked significantly higher than Method VII at the 1% level.

Method I ranked significantly higher than Method VII at the 5% level.

The actual rank of the various methods on the subtest was as follows: III, I, II, VI, V, IV, VII.

Comments:

As had been predicted, Method III ranked high on this test, significantly so in comparison with Methods IV and VII. The hypothesis that Method I would rank high was also accurate, with Method I being significantly higher than Method VII at the 1% level.

Method VI, hypothesized for near top ranking, scored midway in the actual results.

The assumption that Method V would rank higher than its companion Method, II, was not accurate. Nor did Method VII rank higher than Method II.

As hypothesized, Method IV ranked low on the test, although one method, Method VII, ranked lower.

TABLE 33
End-of-year Test Results (Intensive Sample)

Fry Phonetically Regular Words Oral Reading Test

Method Adjusted Mean		I Lang.	II Letter Sounds	VI Lang./ Lit.	III Lit.	V Lang./ L.S.	IV Sk.Dev.	VII Lang./ Sk.Dev.
		1.62	1.45	.98	.65	.52	.25	.10
I 1.62	dif.*** t-test		.17 .309	.64 1.106	.97 1.780*	1.10 2.045**	1.37 2.358**	1.52 2.703**
II 1.45	dif. t-test	-.17 .309		.47 .807	.80 1.451	.93 1.710*	1.20 2.045**	1.35 2.375**
VI .98	dif. t-test	-.64 1.106	-.47 .807		.33 .557	.46 .787	.73 1.171	.88 1.451
III .65	dif. t-test	-.97 1.780*	-.80 1.451	-.33 .557		.13 .239	.40 .682	.55 .964
V .52	dif. t-test	-1.10 2.045**	-.93 1.710*	-.46 .787	-.13 .239		.27 .465	.42 .743
IV .25	dif. t-test	-1.37 2.358**	-1.20 2.045**	-.73 1.171	-.40 .682	-.27 .465		.15 .244
VII .10	dif. t-test	-1.52 2.703**	-1.35 2.375**	-.88 1.451	-.55 .964	-.42 .743	-.15 .244	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (1.981)   df=115
* .05 level (1.661)
*** difference=mean (col.) minus mean (row)

Sample Test Items from Fry Phonetically Regular Words Oral Reading Test

1. nap
2. pen
3. hid
4. job
5. rug
6. shade
7. drive
8. joke

16. walk
17. haul
18. jaw
19. soil
20. joy
21. frown
22. trout
23. term

"Have pupil read words from one copy while examiner makes another copy. Do not give pupil a second chance but accept immediate self-correction. Let every student try the whole first column. If he gets two words correct from word number six on, let him try the whole second column."[1]

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[1] Fry Phonetically Regular Words Oral Reading Test, op. cit.

End-of-year Test Results (Intensive Sample)

Fry: Phonetically Regular Words Oral Reading Test

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

Before stating the hypotheses it should be noted that the research pupils did not work with vowels. Such work would have been greatly to their advantage on this test.

Taking this fact into consideration, it was hypothesized that:

1. Method V would rank above all other methods because of its directed study of letter sound association and the broad language experience of its pupils including handwriting. It was predicted that an element of transfer might help the pupils in Method V identify some of the phonetically regular words even though they had not had direct work with vowels.

2. Method II would probably rank higher than Methods I, VI, and VII because its concentrated letter sound association work would afford the Method II pupils an advantage in figuring out unknown phonetically regular words.

3. Methods I, VI, and VII would rank above Methods III and IV because each of these three methods gave more direct experience in recognizing words than did Method IV, and in recognizing words in isolation, than did Methods III and IV.

4. Methods III and IV would rank low on the test: Method III because its pupils had not had experience in reading words in isolation; Method IV because its pupils had had no training in reading words at all.

Results:

Method I was significantly better than Method III at the 5% level.

Method I was significantly better than Methods V, IV and VII at the 1% level.

Method II was significantly better than Method V at the 5% level.

Method II was significantly better than Methods IV and VII at the 1% level.

The actual rank of the various methods on the subtests was as follows: I, II, VI, III, V, IV, VII.

Comments:

The hypothesis that Method V would rank high did not prove correct.

it ranked low middle. The prediction concerning Method II, however, was partially accurate in that it ranked higher than all methods except Method I.

The hypothesis that Method I would rank higher than Methods III and IV was accurate, but actually Method I's ranking was higher than anticipated in that it outranked all other methods. It was significantly better than Methods III, IV, V, and VII.

The hypothetical ranking of Method VI proved accurate. Method III, however, ranked somewhat higher than anticipated.

Method IV ranked low fulfilling its prediction. Method VII ranked last, lower than predicted.

TABLE 34

Number of Times the Adjusted Mean for a Given Method Was Superior to Another Method on End-of-Year Oral Reading Tests

Tests	Methods						
	I Lang.	II Letter Sounds	III Lit.	IV Sk.Dev.	V Lang./ L.S.	VI Lang./ Lit.	VII Lang./ Sk.Dev.
Gilmore Accuracy	5	4	6	1	2	3	0
Gates - Word Pronunciation	6	5	3	0	4	2	1
Fry - Oral Rdg. Test	6	5	3	1	2	4	0
Total	17	14	12	2	8	9	1

End-of-year (Intensive Sample): Oral Reading Tests: Summary.

1. In the Gilmore Oral Reading Test, the performance of Method III was superior to Method IV at the 5% level and to Method VII at the 1% level. The performance of Method I was superior to Method VII at the 5% level. The Gilmore Oral Reading Test involved testing and learning characteristics which are very similar to the test on "Paragraph Meaning" in the SAT. It is interesting to note that Method III and Method I held top ranking on the SAT "Paragraph Meaning" in the group and the intensive sample, as well as in the Gilmore Oral Reading Test.

2. In the Gates Word Recognition Test, Method I's performance was significant over Methods VII and IV at the 5% level.

3. In the Fry Test of Phonetically Regular Words, Method I was significantly superior to Method III at the 5% level, and to Methods V, IV, and VII at the 1% level. Method II was significantly superior to Method V at the 5% level, and to Methods IV and VII at the 1% level.

4. These research pupils had had only two and one-half months of formal book instruction and insofar as phonics was concerned, attention had been centered on the letter-sound association of consonants with introductory work in the substitution of the beginning letter of known words. Therefore, after careful study it is believed that possibly the greatest difference in the skills applied to the Fry Test of Phonetically Regular Words and the Gates Word Recognition Test, as far as these low group pupils were concerned, was that there were some known words on the Gates test whereas the pupils would not have encountered any of the words on the Fry list. The results as shown in Table 34 indicate that in nearly all instances the methods ranked in nearly the same order for the Gates

Word Pronunciation Test as for the Fry Test of Phonetically Regular Words.

5. Results, other than what has been reported above, seem inconsistent with the other findings and any kind of interpretation might be no more than a guess.

End-of-year (Intensive Sample): Handwriting: General Comments. The word "restricted" in reference to the handwriting sample applies to the restriction placed upon the teacher not to supply any motivation for the pupils' choice of subject or content. Thus, it was the teacher and not the pupils who were restricted.[1]

End-of-year (Intensive Sample): Handwriting: Statistical Procedures. Writing samples[2] of the same 140 pupils examined for the individual oral reading texts were examined for the results which are tabulated in the following tables under the headings "Mechanics Ratio Score," "Spelling," and "Number of Words."

An analysis of covariance was performed for the handwriting sample which utilized the total raw score of the Metropolitan Readiness Test, Form A; the WISC Verbal score; and the TQI as control variables.

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[1] At another time the pupils were asked to write a story for which motivation was given. These stories were referred to as "unique." Results from this sampling are not tabulated in this report. These two designations, "restricted" and "unique" were terms supplied by the National Coordinating Committee.

[2] See pp. 46-47 for a further description of what was involved in obtaining these samples.

TABLE 35

End-of-year Test Results (Intensive Sample)

Handwriting: Mechanics Ratio Scale, Restricted
(Capitalization, Punctuation, Indentation)

Method Adjusted		III Lit.	V Lang./ L.S.	VII Lang./ Sk.Dev.	I Lang.	II Letter Sounds	VI Lang./ Lit.	IV Sk.Dev.
Mean		76.15	64.71	61.76	60.39	56.72	55.81	45.64
III	dif.***		11.44	14.39	15.76	19.43	20.34	30.51
76.15	t-test		1.856*	2.240**	2.556**	3.111**	3.059**	4.589**
V	dif.	-11.44		2.95	4.32	7.99	8.90	19.07
64.71	t-test	1.856*		.465	.709	1.296	1.354	2.900**
VII	dif.	-14.39	-2.95		1.37	5.04	5.95	16.12
61.76	t-test	2.240**	.465		.215	.784	.872	2.364**
I	dif.	-15.76	-4.32	-1.37		3.67	4.58	14.75
60.39	t-test	2.556**	.709	.215		.596	.698	2.244**
II	dif.	-19.43	-7.99	-5.04	-3.67		.91	11.08
56.72	t-test	3.111**	1.296	.784	.596		.137	1.666*
VI	dif.	-20.34	-8.90	-5.95	-4.58	.91		10.17
55.81	t-test	3.059**	1.354	.872	.698	.137		1.447
IV	dif.	-30.51	-19.07	-16.12	-14.75	-11.08	-10.17	
45.64	t-test	4.589**	2.900**	2.364**	2.244**	1.666*	1.447	

Independent control variables: Metro. total raw score, WISC, and T.Q.I.

** .01 level (1.981) df=115
* .05 level (1.661)
*** difference=mean (col.) minus mean (row)

End-of-year Test Results (Intensive Sample)

Handwriting: Mechanics Ratio Scale, Restricted
(Capitalization, Punctuation, Indentation)

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods I, V, VI and VII would rank above Methods II, III, and IV because the former had direct training in the skills of capitalization, punctuation, and identation.

2. Method III would rank above Methods II and IV because the pupils in Method III had the experience of seeing capital letters, punctuation, and indentation in functional situations while the pupils in Methods II and IV did not.

3. Methods II and IV would rank lower than all other methods because these methods had the least direct training in the skills being tested. (Method II had training in naming and discriminating the letters but not in functionally using the skill.)

Results:

Method III was significantly better than all other methods at the 5% level. It was significantly better than Methods I, II, IV, and VII at the 1% level.

Method V was significantly better than Method IV at the 1% level.
Method VII was significantly better than Method IV at the 1% level.
Method I was significantly better than Method IV at the 1% level.
Method II was significantly better than Method IV at the 5% level.
The actual rank of the various methods on the subtests was as follows: III, V, VII, I, II, VI, IV.

Comments:

The results verified expectations that Methods I, V, and VII would rank above those methods which had not had direct training in the skills of capitalization, punctuation and indentation. Method VI scored lower than had been predicted.

Method III fulfilled the prediction of ranking higher than Methods II and IV, and also scored significantly higher than all other methods.

Methods II and IV did rank lower than all other methods with the exception of Method VI.

TABLE 36

End-of-year Test Results (Intensive Sample)

Handwriting: Spelling, Restricted

Method Adjusted Mean		VI Lang./ Lit.	I Lang.	III Lit.	II Letter Sounds	IV Sk.Dev.	V Lang./ L.S.	VII Lang./ Sk.Dev.
		23.06	22.82	20.78	19.78	19.62	18.65	15.68
VI	dif.***		.24	2.28	3.28	3.44	4.41	7.38
23.06	t-test		.058	.547	.785	.780	1.067	1.723*
I	dif.	-.24		2.04	3.04	3.20	4.17	7.14
22.82	t-test	.058		.526	.784	.775	1.090	1.790*
III	dif.	-2.28	-2.04		1.00	1.16	2.13	5.10
20.78	t-test	.547	.526		.256	.279	.550	1.265
II	dif.	-3.28	-3.04	-1.00		.16	1.13	4.10
19.78	t-test	.785	.784	.256		.039	.291	1.016
IV	dif.	-3.44	-3.20	-1.16	-.16		.97	3.94
19.62	t-test	.780	.775	.279	.039		.234	.920
V	dif.	-4.41	-4.17	-2.13	-1.13	-.97		2.97
18.65	t-test	1.067	1.090	.550	.291	.234		.746
VII	dif.	-7.38	-7.14	-5.10	-4.10	-3.94	-2.97	
15.68	t-test	1.723**	1.790**	1.265	1.016	.920	.746	

Independent control variables: Metro., total raw score, WISC, and T.Q.I.
** .01 level (1.981) df= 115
* .05 level (1.661)
*** difference = mean (col.) minus mean (row)

End-of-year Test Results (Intensive Sample)

Handwriting: Spelling, Restricted

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods I, V, and VI would score above the other four methods: In the case of Method I, because the pupils had direct training in spelling and had the reinforcement of handwriting; with Method V, because the pupils had direct experience in spelling words as they wrote plus the reinforcement of a knowledge of letter-sound association principles; in the case of Method VI, again because of the direct experience in spelling and writing gained through the language part of the program plus the reinforcement of functional reading experiences.

2. Methods II and VII would rank near the middle of the scores: Method II because the direct teaching in letter-sound association would give clues in spelling; Method VII because half of its program had been devoted to language in which spelling was directly taught.

3. Methods III and IV would rank low on this test because in neither method had direct training in spelling been given.

Results:

Method VI was significantly better than Method VII at the 5% level. Method I was significantly better than Method VII at the 5% level. The actual rank of the various methods on the subtests was as follows: VI, I, III, II, IV, V, VII.

Comments:

Methods VI and I ranked high as had been predicted. Contrary to expectations, Method V ranked in the lower third of the scores rather than near the top.

Method III ranked much higher than was anticipated. The rankings of Methods II and IV had been correctly anticipated.

TABLE 37
End-of-year Test Results (Intensive Sample)

Handwriting: Number of Words, Restricted

Method		II	VI	I	III	IV	V	VII
		Letter Sounds	Lang./ Lit.	Lang.	Lit.	Sk.Dev.	Lang./ L.S.	Lang./ Sk.Dev.
Adjusted Mean		26.79	26.18	25.27	24.43	22.70	21.25	18.25
II	dif.***		.61	1.52	2.36	4.09	5.54	8.54
26.79	t-test		.130	.348	.536	.872	1.273	1.883*
VI	dif.	-.61		.91	1.75	3.48	4.93	7.93
26.18	t-test	.130		.195	.373	.702	1.063	1.647
I	dif.	-1.52	-.91		.84	2.57	4.02	7.02
25.27	t-test	.348	.195		.195	.556	.937	1.567
III	dif.	-2.36	-1.75	-.84		1.73	3.18	6.18
24.43	t-test	.536	.373	.195		.369	.731	1.362
IV	dif.	-4.09	-3.48	-2.57	-1.73		1.45	4.45
22.70	t-test	.872	.702	.556	.369		.312	.926
V	dif.	-5.54	-4.93	-4.02	-3.18	-1.45		3.00
21.25	t-test	1.273	1.063	.937	.731	.312		.669
VII	dif.	-8.54	-7.93	-7.02	-6.18	-4.45	-3.00	
18.25	t-test	1.883*	1.647	1.567	1.362	.927	.669	

Independent control variables: Metro, total raw score, WISC, and T.Q.I.

** .01 level (1.981) df=115

* .05 level (1.661)

*** difference = mean (col.) minus mean (row)

End-of-year Test Results (Intensive Sample)

Handwriting: Number of Words, Restricted

Method I: Language
Method II: Letter Sounds
Method III: Literature
Method IV: Skills Development
Method V: Language/Letter Sounds
Method VI: Language/Literature
Method VII: Language/Skills Development

Expectations:

It was hypothesized that:

1. Methods I, III, and VI would rank high: Method I because the pupils would have had many direct experiences with the act of writing; Method VI for the same reason plus the fact that they would have had opportunity to see many words in story form through the literature part of their program; Method III because the pupils would also have become accustomed to seeing many words in story form and might transfer this awareness to writing many words themselves. In addition, these three methods would theoretically provide more opportunities for developing a "story sense" and thus the pupils might be more inclined to write longer stories.

2. Methods V and VII would share middle ranking although it was predicted that Method V would rank above Method VII because the pupils would have had more contact with actual words in Method V.

3. Method II would rank somewhat below middle because of no handwriting, although some experience in this method with use of context clues and confidence in letter-sound associations might bear positively on the final results.

4. Method IV would rank low because this method included no handwriting and no experience with reading words.

Results:

Method II was significantly better than Method VII at the 5% level. The actual rank of the various methods on the subtest was as follows: II, VI, I, III, IV, V, VII.

Comments:

Contrary to prediction, Method II ranked higher than all other methods and significantly higher than Method VII. As had been anticipated, Methods VI, I, and III ranked high although they ranked lower than Method II.

Contrary to expectation, Methods V and VII ranked at the bottom rather than in the middle bracket of scores, and Method IV ranked higher than had been anticipated.

End-of-year (Intensive Sample): Handwriting: Summary Statement.

Three aspects of pupil skill were measured in the handwriting compositions from the intensive sample: mechanics ratio (capitalization, punctuation, and indentation), spelling, and number of words.

1. Mechanics Ratio Score: Method III (Literature) was significantly superior to all methods at the 5% level and to Methods I, II, and IV at the 1% level. Methods I, V, and VII were superior to Method IV at the 1% level. Method II was significantly superior to Method IV at the 5% level.

The position of Method III (Literature) supports the role of functional reading for developing skill in the mechanics of writing. The pupils of Method III observed the process of building words, sentences, and stories throughout their first semester experience.

The superiority of Methods I, V, and VII to Method IV (Skills Development) seems to point to the effect of directed experience. All of the pupils of Methods I, V, and VII worked with some aspect of the language program including handwriting. Method IV (Skills Development) had no such experience with handwriting or composition the first semester.

The superiority of Method II (Letter Sounds) to Method IV (Skills Development) at the 5% level may support the need of knowledge of letters in both their capital and lower case form, although this should not be considered truly a functional experience. The pupils of Method II had had such intensive drill in capital and lower case letters, coupled with a knowledge of the use of each, that they were perhaps at least more adept in that aspect of the compositional work than the pupils of Method IV which had had no such training.

The superiority of Method VI over Method VII might point to the importance of a functional reading experience coupled with a broad language program as opposed to a straight skills program coupled with the language, for building strength in spelling. The superiority of Method I over Method VII might suggest that the broad language program alone is superior to the Language and Skills Development combination in cultivating accurate spelling.

3. Number of Words: only one significant difference appeared. Method II (Letter Sounds) was superior to Method VII (Language/Skills Development) at the 5% level.

4. It might be added that another such attempt to examine samples of pupil writing should probably concern itself more with content rather than mechanical aspects of writing alone. Number of words did not seem to be a reliable measure. There was no restriction, for example, against a pupil's writing the same sentence 10 times and having a total of 40 words in his composition when really he had written the same four word sentence perfectly 10 times and thus received a total word count of 40, a total sentence count of 10, and a perfect score on capitalization and punctuation.

Studies of this kind might well include also such items as number of different words used, complexity of sentence structure, logical arrangement of a sequence of ideas, and the general quality of the composition. This would require more extensive analysis but might prove more valuable than an analysis of the mechanics of writing alone.

TABLE 38

Summary of Comparisons of Adjusted Means of the Intensive Sample of Various Combinations of Methods on All End-of-the year Tests

Tests	Adjusted Mean Scores of Method I and Combinations			Comparison of I Against A		Comparison of I Against B		Comparison of A Against B	
	I	A	B	I-A	"t"	I-B	"t"	A-B	"t"
SAT									
Wd.Reading	15.58	14.56	14.78	1.02	.92	.80	.71	.22	-.27
Par.Mean.	14.81	12.14	11.10	2.67	2.34**	3.71	3.25**	1.04	1.24
Vocab.	16.04	17.57	17.40	1.53	-1.26	1.36	-1.12	.17	.18
Spelling	7.19	5.99	5.84	1.20	.99	1.35	1.12	.15	.17
Wd.St.Skills	30.17	28.18	28.41	1.99	1.21	1.76	1.07	.23	-.18
Gates									
Wd. Pron.	7.34	6.30	6.13	1.04	1.50	1.21	1.70	.27	.33
Gilmore									
Accuracy	6.46	5.88	4.24	.58	.32	2.22	1.20	1.64	1.20
Fry									
Oral Rdg.	1.64	.81	.52	.83	1.80	1.12	2.50*	.29	.06
Writing									
Mech.Ratio	60.21	60.61	61.18	-.40	-.07	.97	-.18	1.07	-.14
Spelling	22.86	20.03	19.00	2.83	.89	3.86	1.22	1.03	.44
No. of Wds.	25.35	24.70	21.74	.65	.18	3.61	1.02	2.96	1.12

* significant at 5%
** significant at 1%

I = Method I
A = Combination of Methods II, III, and IV
B = Combination of Methods V, VI, and VII

Statistical Comparison of Methods Which Included Handwriting vs. Those Which Did Not or Which Devoted Comparatively Less Time to Handwriting

It is realized that the actual effect of handwriting alone is difficult to measure in this study, for writing was always interrelated with the other language arts. However, one of the purposes of this study was to try to assess the effect of handwriting on the teaching of reading and perhaps this can best be accomplished through the three comparative analyses which are shown in Table 38: namely,

1) A comparison of the adjusted mean scores of the method which included the most handwriting (Method I), against the adjusted mean scores of a combination of those methods which had little handwriting (Methods II, III, and IV -- referred to as "A" in Table 38).

2) A comparison of the adjusted mean scores of the method which included the most handwriting (Method I), against the adjusted mean scores of a combination of those methods which divided their time between language (including handwriting) and their component method (Methods V, VI, and VII -- referred to as "B" in Table 38).

3) A comparison of the adjusted mean scores of the three "straight" methods[1] (those which did not include handwriting) against the combination methods (those which devoted approximately half of their time to the language program including handwriting).[2]

It should be stated, before presenting the results of this examination, that during the first six weeks of school, all pupils had instruction in learning to write the letters of the alphabet. Such a presentation is standard procedure in the Cedar Rapids schools and it did not seem administratively feasible to exclude the research pupils. However, instruction and use of handwriting was discontinued for Method II (Letter Sounds), Method III (Literature), and Method IV (Skills Development) after this initial instruction was concluded.

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[1] Those referred to as "A" in Table 38.

[2] Those referred to as "B" in Table 38.

Statistical Procedures. An analysis of covariance was performed using the individual scores of the 140 pupils who were randomly selected and identified as the "intensive sample." The control variables were: the total raw score on the Metropolitan Readiness Test, Form A; the WISC Verbal; and the TQI.

Results. Method I, involving the broad language approach including handwriting, held a consistently high ranking in all of the comparisons. In two comparisons, on one subtest of the SAT, Method I was significantly superior, namely, over the combined adjusted means of Methods II, III, and IV at the 5% level; and over the combined adjusted means of Methods V, VI, and VII at the 1% level. These significant differences in favor of Method I (Language) occurred in the SAT subtest "Paragraph Meaning," which is held to be one of the best indicators of reading ability.

Method I was also superior to the combined methods, V, VI, and VII (designated as "B" on Table 38), at the 5% level on the Fry Oral Reading Test.

In comparing the "straight" methods ("A") with those which combined a "straight" program with the language program ("B"), the "straight" methods usually had a slightly higher mean score. However, there were no significant differences in this analysis.

Subjective: Reaction to Testing

In September, 1964, all principals were asked to give their reactions to the initial testing period. The consensus seemed to be that especially for the low group pupil, there were too many tests, some of which were too long, given too early in the year with pupils unfamiliar with school routine. Instances of emotional outbreak and evidence of frustration were noted. Ambiguities in test directions in some of the manuals were also cited as possible rough spots in the testing period.

Short attention spans and general restlessness characterized many of the subjects who responded to specific tests as follows:

Pintner-Cunningham

Most pupils responded quite well to the Pintner-Cunningham, finding it an enjoyable test to take. However, many became frustrated in Part 7, a section on dot drawing which demands considerable motor facility.

Metropolitan

A few principals expressed the opinion that the Form A of the Metropolitan Readiness Test which was administered in September seemed more difficult for the pupils than the Form R test which had been administered the preceding May, a fact possibly attributable to two factors: 1) loss of school savvy over the summer months; or 2) the fact that the Form A was a definite attempt on the part of the publisher to include in the test more of the types of items which pupils might be meeting today.

Murphy Durrell, Diagnostic Reading Readiness

This group of pupils were not prepared to recognize isolated sounds as asked by this test. The pupils seemed more frustrated during this test than during any other. Guesswork prevailed. Consensus seemed to be that the test was too long, too difficult for this type of pupil.

Thurstone

Identical Forms. The pupils had extreme difficulty maintaining their place on the page. They found the actual test items very difficult although the sample items had been simple. Early frustration appeared under the three-minute time limit.

Other Responses

Perhaps two responses will indicate the type of difficulty encountered in administering the end-of-year group tests to the low group pupil who had been in formal reading for less than three months:

1) Several principals administered the SAT to children who had been absent during the testing period. One said that three of the four sections on Word Study Skills were completely beyond the boy he tested.

2) One teacher, administering this same section, found it very difficult to keep the group at the test. "Can't we stop now?" was their response at the end of the first page.

In administering the individual terminal tests to the intensive sample the following responses were noted:

Gilmore Oral Reading Test

Generally enjoyed by the children. Some part of the test could usually be accomplished by each child and the testing was always terminated before severe frustration set in.

Gates Word Pronunciation Test

Considered too difficult for these children by the examiners -- at least in that the children should be required to give two responses. "These children have usually given their all on the first response. To push them further only frustrates. Very few correct responses on the second try." It would seem, therefore, that the second try is no favor to this low group child.

Fry Phonetically Regular Words Oral Reading Test

No specific responses recorded.

Subjective Data: Response to Methods and Materials

The subjective response to methods and materials which follows reflects reactions of teachers, pupils, parents and observers who were connected with the study. Many of these responses were obtained from the pupils or teachers by the observer when visiting the classes; others were given either in writing by the teachers at the final in-service meeting in May or were noted by the observers at earlier in-service meetings.

Teacher reaction to participation in this study was generally very good. There seemed to be a keen interest and approval of the area of study, a feeling of professionalism in being involved in the project, and an obvious desire to learn of any possible means of aiding the slow-developing reader. Teachers were attentive, prompt and alert at in-service meetings to which they brought questions and comments. It was evident during the first semester that the teachers were trying to adhere to the method as prescribed, and if deviations were pointed out, they were sincere about correcting them. They were particularly careful about staying within the thirty-five minute time allotment for the research group each day.

During the second semester when work was begun in a basal reader, special lessons were written so that the manual to the basal reader was rarely used. There was a noticeable tendency among experienced teachers, however, to revert to traditional methods of teaching when using the basal materials. Some teachers questioned some of the research practices and were reluctant to use the recommended innovations at the outset. However, after an in-service meeting and further use of these different methods, they became enthusiastic about the procedure as the purposes for them became clarified.

Without exception, the teachers felt that a great deal of time was spent in preparation for the research classes and were concerned at times that a disproportionate amount of preparation time was used for the research group.

The majority of teachers maintained a sincere interest in the study throughout the year; felt that participation had taught them more about the teaching of reading; were eagerly expectant of the outcomes. Only a very small number indicated they would not care to participate in another study.

There were various reactions among participants, both with experienced and new teachers. Some experienced teachers proceeded through the yearly tasks with an attitude of stern resolve to get the job done as prescribed and as well as they were able; to cooperate in all that was asked of them but without much emotion or reaction either pro or con toward the investigation. There were other experienced teachers who reflected an attitude of lively interest and enthusiasm each step of the way, seemingly expectant of a discovery of some technique which would enable the slow-learner to perceive more effectively. Though this group admittedly worked hard and spent more time than usual in preparation for their classes, they reported that they would be willing to participate in a similar study another year.

Generally, the first-year teachers accepted the tasks seriously and conscientiously and followed the method to the best of their understanding. At times their pacing tended to be too slow or they misunderstood the purpose of the lessons but when these were clarified they adjusted their teaching accordingly. Since the total program was new to this group, they worked hard and long in preparation but their attitude remained positive and their interest high.

Others felt that some lessons were too long, that the lessons required too much preparation time and were difficult to teach, yet they kept an efficient program going throughout the study. There was a small minority who started out with enthusiasm but gradually lost it and it was evident that their teaching suffered due to this loss. These few teachers usually had trouble with class control which further diminished the effectiveness of their work.

The two major positive reactions from teachers were (1) the high interest maintained by their research group, and (2) the fact that the other pupils in the room were unaware of whether the research group was low or top.

More specifically, the following responses were noted to the various methods.[1]

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[1] As explained on p. 80, combinations of the various methods were effected so that the effect of the addition of handwriting on the "straight" program might be observed. For this reason, the subjective responses have been arranged as follows:

Method I (Language) responses are listed alone.

Methods II (Letter Sounds) and V (Letter Sounds and Language) responses are grouped together.

Methods III (Literature) and VI (Literature and Language) responses are grouped together.

Methods IV (Skills Development) and VII (Skills Development and Language) responses are grouped together.

Method I (Language)

The general reactions to Method I were very favorable from both teachers and pupils. Particular emphasis was placed upon the motivational effect which the art work, format and content of the Ginn Elementary English books had upon the pupils. Pride of possession and an observable record of achievement also seemed to characterize the pupil responses to the materials. The teachers reported that lesson plans were relatively easy to follow and that the pupils were genuinely interested in the varied types of activities. The inclusion of many writing experiences seemed to make the pupils in this method aware of printed words and their differences and this seemed to enhance their eagerness to read.

The pupils showed definite improvement in skills thought to be essential for beginning reading -- for example, following standards for good listening, using clues for interpreting pictured action, relating events in sequential order, and anticipating outcomes. Although at the beginning of the training period, the pupils had considerable difficulty with usage in expressing their ideas, significant improvement was reported as the semester progressed. Pupils learned to employ prescribed letter formation in writing words and sentences, although proficiency in handwriting was slower than for the superior students in the room. By the end of the training period, some pupils were able to write and evaluate simple compositions independently and most pupils demonstrated handwriting skill (letter formation) as good as or superior to that of other pupils not included in the program.

Some pupils demonstrated their ability to read long before formal instruction in reading was initiated.

Methods II (Letter Sounds) and V (Letter Sounds and Language)

One of the main differences in the generally favorable reactions of the teachers of Method II (Letter Sounds) and Method V (Letter Sounds and Language) was that five of the seven teachers of Method II would have preferred handwriting with the program. This criticism was, of course, not voiced by the teachers of Method V, for their method included handwriting as part of the combination. The teachers seemed to respond positively to the thoroughness with which the lessons had been constructed, although they expressed the opinion that they (the teachers) perhaps tired of the repetitiveness in the lessons more than did the pupils. There seemed to be general appreciation of the ease with which this slow-moving group had learned to associate letter sounds and symbols. One teacher reported, "Most of my low group children know the letters and the sounds the letters make better than my middle reading group."

The teachers of Method V seemed more enthusiastic in their reporting of pupil response to the method than did those in Method II, reflecting somewhat, perhaps, combining of Language (including handwriting) with the Letter-Sounds learning.

Methods III (Literature) and VI (Literature and Language)

The teachers of Methods III (Literature) and VI (Literature and Language) expressed enthusiasm for the books and materials supplied, and, in general, were pleased with the ways in which they were used. They felt that a great deal of status was acquired by the pupils in being the first group in the room to use hard-back books. The variety in the content of the books, their varied, high-quality illustrations, and comprehensive treatment of ideas, and complete stories were all factors which the teachers recognized as contributory to high interest. The privilege of taking books home to be shared with parents further emphasized the importance of books and of the pupils reading them, as well as provided confidence within the pupils regarding their reading ability.

As the books used contained illustrations of high quality, they lent themselves to the development of art appreciation and experimentation with various media. Although at first some teachers were apprehensive of the many experiences in creative work which was used instead of the "worksheet"type of activity, most of them later felt that it had been of definite value.

As the pupils gained experience with various art media, their work became more spontaneous and creative. An aim of this method, the appreciation of literature, began to unfold in that the pupils used books in their free time, became interested in authors and illustrators, tried to determine the art media used in a given book, recognized the seal of the Caldecott Medal on classroom books, and knowingly quoted or referred to books of their acquaintance.

Among the greatest rewards for the teachers was the enthusiasm displayed by these pupils and the fact that they played an important part in the classroom as a whole. One teacher using Method III noted, for example, "It (the Literature Method) gave each child such a good background in science, social studies and numbers." Another observed, "I thought the method was . . . (an) excellent example of providing experiences to children who had had little or no experiences except those provided in their kindergarten program."

Opinion was expressed in Method VI (Literature and Language) that the addition of the Language program gave the pupils an adequate balance of experience with letters, words and writing experiences. A typical comment from a teacher of Method VI: "Beginning first with the literature brought enthusiasm and self-confidence which aided the language later on."

The general feeling of success on the part of the pupils combined with their interest in the books, experimentation with the various art media, and a growing appreciation of the aesthetic qualities of art and literature, developed a mounting enthusiasm in the pupils. This enthusiasm was further accented by their status in the classroom. Their beautiful books and interesting things to do were the envy of pupils in other reading groups. Many pupils in the class asked individual members of the research group to show them the lovely books. Status and success thus fostered more success and enthusiasm.

Methods IV (Skills Development) and VII (Skills Development and Language)

Reactions of teachers involved with the Skills Development methods differed considerably. In Method IV, for example, although only one teacher unreservedly endorsed the program as a whole, all seven involved in this method responded favorably to some aspect of it. The Method VII teachers, whose work had involved both skills and language work, were particularly enthusiastic over the emphasis given to beginning sounds early in the first semester. One teacher stated, ". . . of my 12 who did well, most have as good or better phonic background than others not in research." Those responses which mentioned the Ginn Elementary English books were positive and enthusiastic. However, another teacher in the combination method noted that were such a program to be used again, it would be valuable to change the order of some activities.

Physical handling and disposition of the approximately 250 unattached worksheets concerned some teachers, as did the difficulty and reputed monotony of the Visual Motor tasks which often frustrated pupils unaccustomed to such demands. One pupil, who later made such consistent progress that she was eventually moved to the top reading group, was so frustrated on the Visual Motor worksheets at the beginning of the year that she cried at home and did not wish to return to school. One boy, a severe discipline problem in kindergarten and a first grade repeater, who also found the visual motor activities frustrating in the early part of first semester, made such rapid progress during the early weeks of the second semester that he was soon transferred to the middle reading group where he continued to perform successfully.

As in the other "straight" methods, the teachers in Method IV suggested that writing should have been included in the program. In fact, most felt the beginning steps in writing and reading could have been introduced at least toward the end of the first semester, and that more direct contact with books was needed. Indeed, the pupils in the Skills Development Method seemed almost more enthusiastic over their contact with books when it finally came than the pupils in any of the other methods. Their response to writing was similar. A first-year teacher, whose class was drawn from an economically depressed area found in December that many of her pupils were impatient to write. Often she found three students in particular sitting at their desks copying stories from books. These three maintained their interest in writing throughout the year.

In one of the Skills Development research groups, several mothers expressed strong concern in January that their children were not yet "in books." Early in the second semester, however, one of the mothers was most satisfied over the way her son had responded to reading. Her comment was, "We honestly didn't think he'd learn to read in first grade."

A teacher with two years' experience said she wished she could have used this skills program (Method IV) with her entire class. Frequently, in such skills as beginning sounds, rhyming and visual discrimination, her low group performed better than the rest of the class.

Subjective: Psychological, Physiological, and Sociological Characteristics

Although this study has been primarily concerned with the effect of various methodologies on the achievement of low group first grade pupils in reading, other factors which influence school performance were also recognized. Intelligence factors were examined through both the Pintner-Cunningham group intelligence test and the Wechsler Intelligence Scale for Children.[1] Results supported Durrell's findings[2] that slow progress did not necessarily mean low intelligence. Approximately 66 percent of the pupils examined in this study received average or above average ratings on the individual WISC Verbal test. (See Table 4.) By the nature of one of the original selective factors for the study, that is, rank below the 60th percentile on the Metropolitan Readiness Tests, Form A, there was bound to be a nucleus of pupils in the study judged to be of below average intelligence. No attempt was made to exclude these pupils from the research groups unless their performance was so low in total class performance as to recommend them for special education classes. Even then, admittance into the special education classes depended upon available space. Consequently, some such pupils worked with the research groups for a portion of the school year until space became available. Three research pupils were placed in special education classes during the 1964-65 school year.

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[1] See Appendix E.

[2] Donald D. Durrell, "Learning Difficulties Among Children of Normal Intelligence," Elementary School Journal, LV (December, 1954), pp. 201-208.

Physical and emotional difficulties and characteristics are also important factors to consider when attempting to discover the causes for reading difficulties. Hancock,[1] for example, found (in an examination of 62 third grade pupils), that emotional instability was mentioned as a factor in the teachers' comments on 38 of the pupils including pupils who could and could not read. Her findings further indicated that abnormal vision and hearing deficiencies had little effect on reading, and the effect of speech defects was negligible. Only two pupils were up to grade level in achievement.

Wolfson[2] reports correlations found by Carrithers significant at the .01 level between emotional status scores and the following: word knowledge, word discrimination, and comprehension. It was further reported that children who had no emotional difficulties showed more positive attitudes toward reading.

Although this study made no formal investigation of such characteristics, an informal survey, by means of written reports, was taken at the last in-service meeting of teachers. These reports revealed that 57 research pupils had received speech therapy during the year. However, if ". . . reading ability is not necessarily dependent upon speech ability,"[1] then it may be assumed that this factor is not of primary importance. Nevertheless, it should be noted that one teacher indicated in an informal conversation, during the school year, that a boy with speech problems was having difficulty differentiating beginning sounds when asked to "read" two pictures and decide which began with the same sound as a third picture. He could, however, make the distinction when hearing the teacher or another child "read" the pictures.

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[1] Rose Hancock, "An Investigation of the Causes for Reading Retardation of a Group of Third-Grade Pupils" (unpublished M. Ed. Thesis, University of Southern California, 1957).

[2] Bernice J. Wolfson, ed., "The Educational Scene," Elementary English, XXXIX (May, 1962), 506-507.

Other physical characteristics were mentioned in these final in-service reports. Time excluded the possibility of any study which might determine with some degree of accuracy their influences on pupil reading ability.

Informal examination of a third major category of factors, which might be termed sociological, was also undertaken. At the final in-service meeting each teacher was asked to fill out a form[2] for each pupil in her research group. The form asked for the pupil's name, date of birth, and school. Under the heading "Factors which you feel may influence this child's behavior: home-family, physical, social (relations with children and adults), other" the teacher was asked to submit, whenever pertinent, information on those factors which she felt had influenced a particular pupil. As might be expected in such an open-ended questionnaire, these anecdotal reports varied markedly depending upon the teacher's experience, the socioeconomic area in which she taught, her intimacy with family conditions and the number of pupils in her research group. However, the findings of Lewis,[1] collected from an inventory of auditory and visual discrimination skills related to reading possessed by incoming kindergarten children, supported the assumption that socioeconomic status had a significant effect upon test performance, although neither chronological age nor sex was a significant factor. Dawson's[2] findings also point to the importance of such sociological factors. Her investigation of the relationship between vocabulary size of third-grade pupils and home environmental factors, found that the vocabulary size of lower socioeconomic level third-grade pupils is comparatively low, that pupils from more favorable home environments probably achieve greater success in language arts curriculum experiences, and that pupils with meager home-environmental experiences probably will have difficulties in comprehension unless special instruction is provided. Pursuing this type of data, even on an informal basis, thus seemed justified.

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[1] Sister M. Cabrini, C.S.A., "Auditory Memory Span and Functional Articulatory Disorders in Relation to Reading in Grade Two," Journal of Developmental Reading, VII (Autumn, 1963), 24-28.

[2] See Appendix C.

In addition to the anecdotal reports, each teacher was asked to judge, on a different form,[3] the comparative progress of each pupil in her reading research group according to the following points:[4]

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[1] Alice Juanita Lewis, "An Inventory of the Auditory and Visual Discrimination Abilities of Beginning Kindergarten Children" (unpublished Ph.D. Thesis, State University of Iowa, 1959).

[2] Martha E. Dawson, "A Study of Vocabulary Size of Third-Grade Pupils in Relation to Home Environmental Factors" (unpublished Ed.D. Thesis, Indiana University, 1956).

[3] See Appendix C.

[4] The teachers were told that a pupil need not be categorized if he did not seem to fit under any of the headings.

1. These children were extremely slow but made outstanding progress this year.
2. These children were extremely slow and did not make (or made some) progress this year.
3. These children were not particularly slow and made good progress this year.
4. These children were not particularly slow and did not make progress this year.
5. These children do not fall in any of the above categories.[1]

The preceding information was transferred to the child's anecdotal report by means of colored slips of paper stapled to the bottom of each report.[2] An interesting picture began to appear. On the anecdotal report one could see the factors which, according to the teacher's judgment, had influenced the pupil's school performance. Now appeared the teacher's evaluation of the same pupil's progress during the year. No comment was made to the teachers as to the possible relationship between the factors and progress made. In fact, they were asked to supply other data between the time when they filled out the analysis of progress and the anecdotal report. One might ask, can the relationship between these factors be identified and measured validly? The possibilities of this type of examination are intriguing and it is in the spirit of informal, observational research that these findings are presented.

Initially, all anecdotal write-ups were carefully read by the research staff. Factors were categorized, given a positive or negative value, and tabulated. For example, under the general heading, "homelife," was placed any factor which described a situation or relationship applying mainly to the home. Included were items such as marital status of parents, rela-

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[1] As there were 63 pupils whom the teachers did not feel fell in any of the above, this fifth heading evolved.

[2] Category #1 - gold; #2 - green; #3 - white; #4 - pink; #5 - no slip attached.

TABLE 39

Tabulation of Anecdotal Factors Gathered From Teachers
At Final In-service Meeting
(All Figures in Table Denote Negative Percentages)

Teacher Judgment Of Pupil Ability And Relative Progress	Percentages of Negative Comments				
	Homelife	Social	Personal	School	Physical
Pupil extremely slow; made outstanding progress N=13	77	40	60	37	85
Pupil extremely slow; made little or no progress N=38	63	44	89	85	73
Pupil not particularly slow; made good progress N=114	62	35	52	9	70
Pupil not slow; made little or no progress N=14	50	100	66	100	86
Pupils who were unclassified by teacher N=63	48	16	61	41	73

tionship with siblings, economic status, or quality of parental care. Statements of simple family relationship such as, "Tom is the youngest of six children," although originally tabulated, were eventually discarded. It seemed impossible to attach either a positive or negative value to such a fact without further investigation.

Such factors as a pupil's reaction to peers, to frustration, to new situations, and to responsibility were tabulated under the headings "personal" or "social" depending upon whether the factor applied to the pupil personally or applied to his reactions in a social situation. A teacher's comment that a pupil was shy was not counted. since, again, it seemed difficult to classify shyness as either a positive or negative factor. If, however, a teacher noted that a pupil was withdrawn and refused to participate in group activities, this was counted as a negative under social. Qualities generally regarded as positive (cooperativeness, cheerfulness, unselfishness) were so counted, although the subjectiveness and possibility of error or omission in this type of consideration is apparent, particularly when it is recalled that a teacher was under no pressure to mention factors in every category, or in any category, for that matter.

The factors classified as "school" and "physical" were the most easily identified. Factors applying exclusively to the pupil's school status were listed under "school." This included such factors as ability to stick with a task, status in any or several school subjects, or attitude. Under "physical" were placed both positive and negative factors which described aspects of the pupil's physical being, such as sight, motor control, speech, and hearing defects.

Some few times an entry had both positive and negative connotations which were difficult to assess. For example, "Although Mrs. Smith works nights, she is very interested in Jane's progress and willing to cooperate in any way she can." It was eventually decided to discard such entries for lack of knowing how to classify them.

In every instance an attempt was made to simplify and record only clearcut entries. Table 39 shows percentages for only negative entries in each of the categories examined. For example, of the comments pertaining to the pupils who were extremely slow who made outstanding progress, it can be seen on Table 39 that 77 percent of the comments pertaining to homelife were negative, 40 percent of the comments pertaining to social were negative, 60 percent pertaining to personal were negative, 37 percent pertaining to school were negative, and 85 percent pertaining to physical were negative.

Examining the table vertically, under the heading "homelife," a negative home condition was indicated for from 48 to 77 percent of the pupils in every pupil category. Interestingly enough, it was the pupils reported to have the more negative home conditions who, in the teacher's judgment, made either outstanding or good progress.

Under the heading "social," negative characteristics seemed to be more pronounced among the pupils who made little or no progress than among those who were judged by their teachers to have made good progress. This same generalization might be made for the entries listed under the general heading "Personal."

In comparing the value of factors reported for pupils who were judged by their teachers to be extremely slow, it can be seen that negative school factors were reported on only 37 percent of the entries of children who had made outstanding progress, whereas, on 85 percent of the entries of the pupils who made little or no progress, there were negative factors reported. This may reflect a poor teacher-pupil relationship. On the other hand, it could mean that in the eyes of these pupils the school has already developed a poor image and will need to do a fair selling job before such negative responses can become positive and thus put the pupils in a frame of mind which will allow them to learn.

The same general direction of ratio appears under the general heading "school" for the pupils who were not particularly slow. Although the reported number of pupils who made little or no progress is proportionably much smaller than those who made good progress (14 as against 114), the negative percentages are even greater (100% against 9%). School associations for these pupils who were classified by their teachers as being not particularly slow, but who made little or no progress, seem to be in even greater jeopardy than for the pupils who were classified as being very slow.

In every category, from 70-86 percent of the entries pertaining to physical were negative, a more consistently high negative ratio than that seen in the other categories.

Comments: It should perhaps again be mentioned that the teachers were asked to indicate on each pupil's anecdotal report only those factors which the teacher felt might have influenced the pupil's behavior.

It might be assumed, therefore, that if a teacher listed a factor, it was probably one which had stood out, at least in her judgment. Clearly, the results point to home conditions surrounding many of these low group pupils which need in some way to be alleviated by the experiences they have in school. It has been noted earlier[1] that intelligence factors are not the primary difficulty with this group of pupils. The problem becomes one of reaching the pupil where he is and motivating him through experiences which he can understand and in which he can succeed. Understandably, the classroom teacher does not always have the time to devote to such individualized instruction. One might hypothesize that these low group pupils could be taught to read successfully if a combination of factors could be brought into play. These would include: 1) methodology which can compensate and supply the experiences which are often missing in this type of pupil's background; and 2) individual contact with an adult figure who can know the child well enough to provide the kind of motivation which will make him really want to learn to read.

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[1] See p. 181.

Amount of Material Covered

Number of Words Introduced

Although the research groups were not placed in "formal" reading situations until the beginning of the second semester, it is interesting to note that during the second semester 251 words were introduced. Table 40 includes only new words introduced at each reading level.

TABLE 40

Total Number of New Words Introduced and Total Number Of Pages Read By Pupils Who Completed Prescribed Program

Books Read	New Words Introduced at Each Reading Level	Number of Pages In Each Book
Pre-Primers	56	181
Primer	99	187
Come With Us	2	63
Hop On Pop	79	64
Mr. and Mrs. Big	15	32
Total	251	527

Assuming that a low group pupil in Cedar Rapids might ordinarily complete only the basal primer level, this represents an increase of approximately 40 percent in the number of words he might meet in first grade. Although the vocabulary in Hop On Pop and Mr. and Mrs. Big was not taught for mastery, the exposure did provide a broader reading experience, and, especially in Hop On Pop, much practice in substituting initial consonants.

Total Number of Pages Read

Those pupils who completed all of the prescribed basal program read a total of 527 pages according to Table 40. Ordinarily, in Cedar Rapids, a low group pupil would read 368 pages in the basal program if he completed the primer level.

Pacing

Resolving of Reading Spread Difficulties

As might be supposed, there was considerable spread in the rate at which these groups progressed through the second semester program. One consideration during the second semester, concerned what to do with groups presenting a distinct cleavage in achievement. One teacher, for example, found that four of her pupils could grasp the lessons faster than the other five. This group contained pupils whose percentile rank on the Metropolitan Readiness Tests ranged from 3-60.

There seemed to be two alternatives to consider: 1) To accelerate part of the group or 2) To continue the group as a whole and work with pupils who needed special support individually. The teachers were told at an in-service meeting early in the semester that all such instances would have to be handled individually. They were to call the research staff who would in turn try to consider the make-up of the groups both in the light of September test scores and individual group I.Q.

Reading Spread at the Time of May Testing

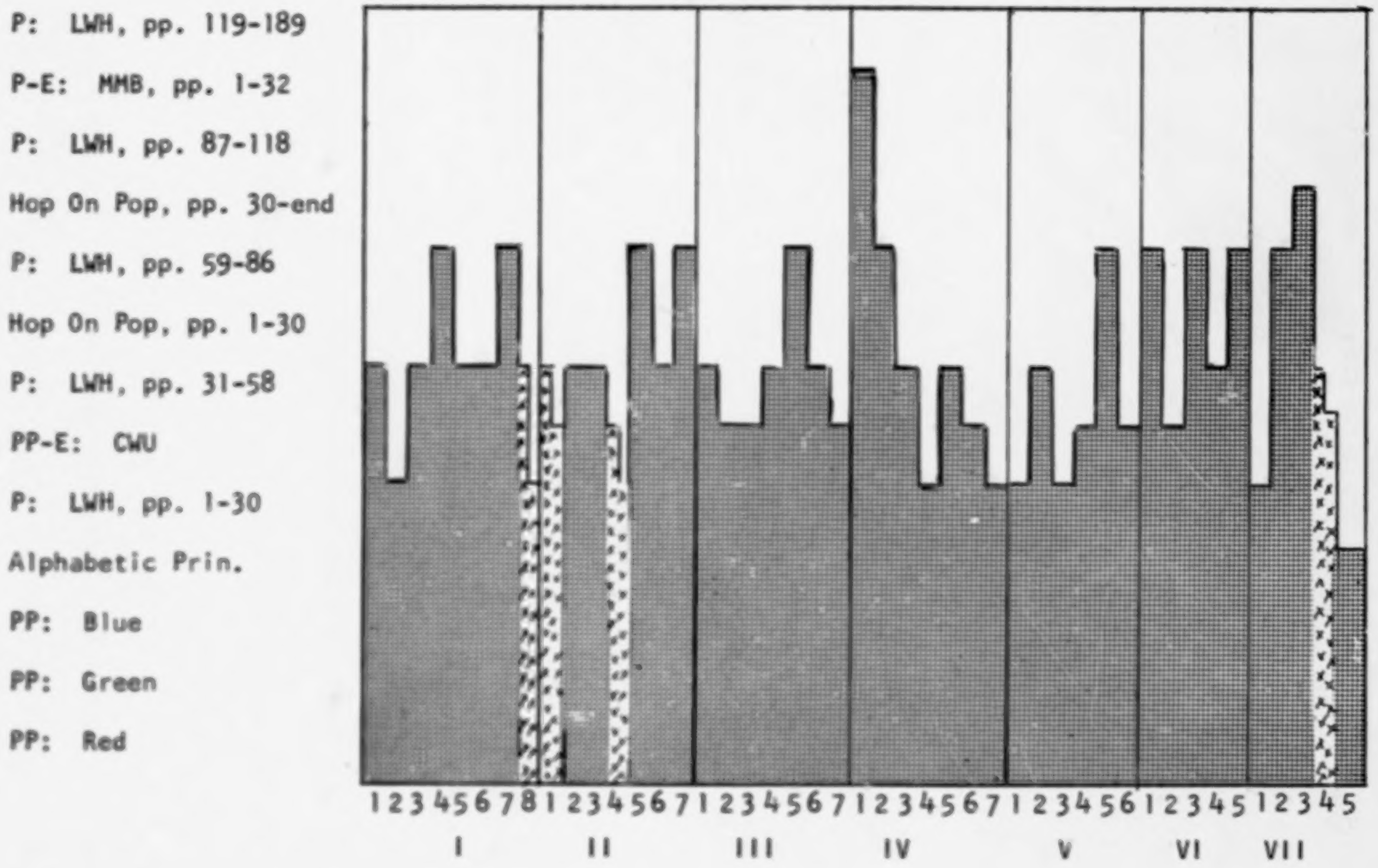
The results of this type of decision are reflected in the tabulation of reading spread at the time of the May testing. Figure 1 represents the progress of the 49 groups (including four split groups) who were counted in the final tabulation.

Reading Spread in June

Approximately 20 school days remained after testing in May. Figure 2 represents the tabulation of teacher reports as to reading placement at the time of the June in-service meeting. It provides the possibility of comparing the progress made by the research pupils in the time between the May testing and the close of school.

Figure 1

Relative Position of All Research Groups Within Each Method
(Including Split Groups) In Prescribed Reading Program
At the Time of May Testing



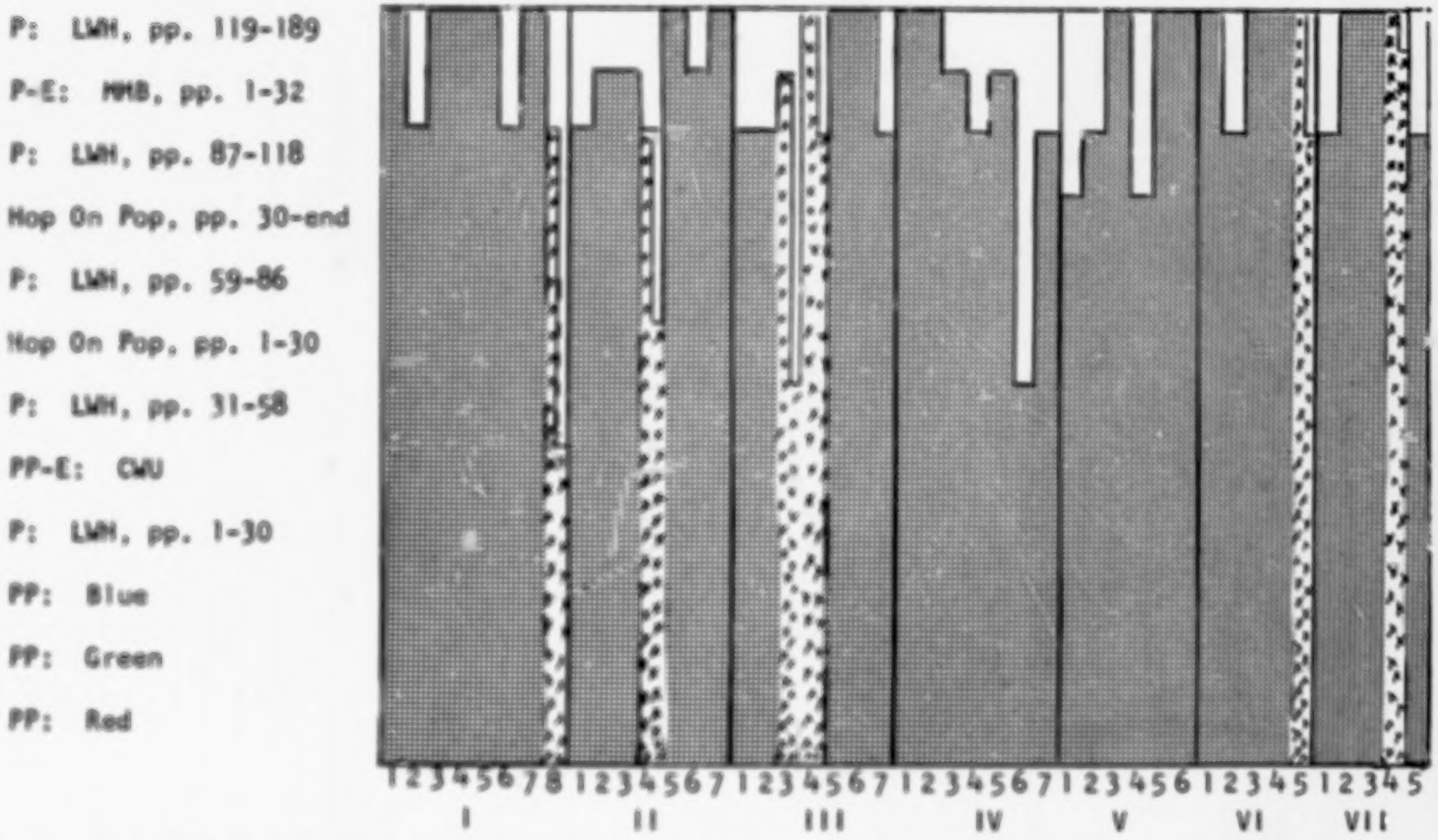
X Columns Represent Split Groups

Key to Abbreviations

PP	Pre-Primer
PP-E:CWU	Pre-Primer Enrichment: COME WITH US
AP	Alphabetic Principle Lessons
P	Primer

Figure 2

Relative Position of All Research Groups Within Each Method
(Including Split Groups) In Prescribed Reading Program
At End of School Year (June, 1965)



X Columns Represent Split Groups

Key to Abbreviations

PP	Pre-Primer
PP-E:CWU	Pre-Primer Enrichment: COME WITH US
P	Primer

Comparison of 10 vs. 19

No pressure was placed upon teachers to maintain a set pace. They were encouraged to adjust their timing and the lesson plans to the needs of their individual groups. Figures 1 and 2 show how the groups varied in the handling of materials. After the administration of the Stanford Achievement Test (not including arithmetic) in May, the question arose, "Did the pupils who finished the basal primer, score better on the SAT than those who finished only half as much of the primer reading program?" It was assumed that this would be true.

As Table 41 shows, 10 classrooms completed all of the primer lessons and 19 completed half of the primer. (The other 16 groups were not considered because they were working either beyond or previous to the halfway point in the primer and thus were not comparable.) Individual scores of the 74 pupils who were in the 10 groups were compared with the individual scores of the 135 pupils in the 19 groups.

TABLE 41

Comparison of the Adjusted Means of the 10 Groups
Who Completed the Basal Primer Program With the
19 Groups Who Completed Half of the Primer Program

SAT Subtests	10 Groups Who Finished Primer	19 Groups Who Finished 1/2 Primer	"t"
Word Reading	16.05	14.84	1.96*
Paragraph Meaning	14.87	10.60	4.90**
Vocabulary	18.44	17.83	.63
Spelling	7.76	5.37	3.62**
Word Study Skills	30.90	27.90	3.63**

df=24
**.01 = 2.49
*.05 = 1.71

Table 41 shows that of the five subtests on the SAT the difference between the two groups on the vocabulary subtest was not significant. The other four subtests all showed significant differences in favor of the faster moving groups for word reading at the 5% level and for paragraph meaning, spelling, and word study skills at the 1% level.

Even though the means referred to in Table 41 were adjusted using the three independent variables of WISC Verbal, TQI, and Metropolitan Readiness Tests results, it is perhaps apparent that teacher competence is difficult to control by statistical treatment alone. The ten teachers had an average Teacher Quality Index of 2.09 based on a 1-5 scale with 1 as high. The average TQI for the 19 teachers was 3.27.

Table 42 gives further evidence of the teacher characteristics that possibly may be cited as in favor of the faster moving group.

TABLE 42

Selected Teacher Data for Comparison of the 10 Groups Who Completed the Primer Program With the 19 Groups Who Completed Half of the Primer Program

Selected Teacher Data	10 Groups Who Finished Primer	10 Groups Who Finished 1/2 Primer
Average Age	38	32
Average Years of Experience	13	8
Mean TQI (scale 1-5 with 1 as high)	2.09	3.27

In addition to the preceding teacher data, it may be of interest to note the mean pupil differences between the two groups as found through the beginning of the year testing on the Metropolitan Readiness Tests, Form A, total raw score; and the WISC Verbal. Table 43 presents these differences, which, although adjusted statistically, may have some bearing on the final comparison scores of these two groups.

TABLE 43

Adjusted Mean Comparisons of the WISC Verbal and Metropolitan Readiness Scores of the 10 Groups Who Completed the Primer Program With the 10 Groups Who Completed Half of the Primer Program

Beginning of the Year Pupil Variables	10 Groups Who Finished Primer	19 Groups Who Finished 1/2 Primer
WISC Verbal	99.51	96.02
Metropolitan Readiness, Form A (total raw score)	45.8	42.1

Number of Pupils Moved to Other Groups

In order to keep the measurables constant, all research pupils were purposely kept from formal reading until the beginning of the second semester even though some showed definite signs of being "ready" earlier. However, as the second semester progressed, 19 pupils who showed capability were double grouped (i.e., they worked with both the research group and the middle group), and 8 pupils were transferred to the middle group where they continued to function successfully throughout the semester. These figures represented approximately 17 percent of the total research population.

CONCLUSIONS AND IMPLICATIONS

Summary

This report is the result of a one-year, 140 instructional-day, study conducted in the Cedar Rapids, Iowa, Public Schools. The study was one of the 27 sponsored by the Cooperative Research Branch of the U.S.O.E. Coordinated and cooperative efforts were made by the directors of the project to set up common measures and regulations.

The Cedar Rapids study, reporting 309 pupils and 45 teachers in its final results, was designed so that seven methods of initial reading instruction for the low reading group (pupils who fell below the 60th percentile on the Metropolitan Readiness Test, Form A) in the first grade could be developed, and their effects measured.

These methods were as follows:

Method I. A language program based on the interrelated communication skills of speaking, listening, writing and reading, with emphasis on speaking, listening and writing, including the teaching of the alphabet and writing activities.

Method II. A text book readiness program concerned solely with developing beginning auditory and visual discrimination skills associated with letter sounds, letter forms, and letter sound associations.

Method III. A functional readiness approach to reading taught through the use of easy-to-read books.

Method IV. A direct teaching of specific rhyming, visual motor, visual discrimination, beginning sounds, and thinking skills taught through the use of non-word-reading activities.

Method V. A combination of I and II, devoting one daily period to the readiness book and one daily period to the language program.

Method VI. A combination of I and III, devoting one period daily to easy-to-read books and one daily period to the language program.

Method VII. A combination of I and IV, devoting one daily period to non-reading activities and one period daily to the language program.

Each method had approximately seven groups, with an average of eight pupils per group. Directed reading instruction was limited to 35 minutes per day during the first semester and 40 minutes per day during the second semester. No attempt was made to compare any of the newly developed methods with an established beginning reading program per se. During the second semester all methods followed an enriched basal reader program.

Specific analysis was employed to help identify and isolate those elements of the seven methods which could then conceivably be put together into a single superior method, which in turn might later be compared in another study against a conventional program.

Each of the seven beginning methods was tested at the middle of the year to measure gains in the areas of visual perception, auditory perception, and comprehension. This provided an opportunity to compare early success in certain skill areas with end-of-the-year success in reading. These methods were also comparatively tested in May through both group and individual testing. The individual testing was drawn from a random sample of 20 pupils from each method. A hypothesis was made by the research staff for each test so that the results could be examined to determine the extent to which they conformed to reasonable a priori expectations. In some cases the hypothesis had to be an educated guess because there were limitations in attaching a practical reason to the expectation. Complete lists of tests are given in Chapter One under "Procedure: Testing." The detailed hypotheses may be found in the chapter "Analysis of Data and Findings."

Results of this study could have been concerned only with objective and statistical evidence, but due to the nature of the study, there appeared to be a great number of subjective factors which were not measurable, but which should also be considered. Such anecdotal and observational comments have been presented in the previous chapter.

Findings and Results

Midyear Results

Two periods of testing, one in February and one in May, produced interesting contrasts which may be of educational significance even though in the May tests, for example, the results showed few statistical differences. The midyear tests were given to measure gain in certain areas of visual perception, auditory perception, and comprehension. The results, analyzed by methods of covariance, using beginning-of-the-year Metropolitan readiness score, WISC Verbal, and TQI (Teacher Quality Index) as control variables, showed Method IV (Skills Development) and Method VII (Language and Skills Development) with the most statistically significant differences. Considering the positive differences on the midyear tests, the rank order of the methods was: VII, IV, II, VI and I (tied), V, III. (See Table 16.)

End-of-year Results

In May, both group and individual testing was conducted. The Stanford Achievement Test results (group) showed only one significant difference, but they did show some interesting shifts in ranking from the midyear testing results. Method I (Language), for example, had more positive differences than any other method on the SAT (See Table 23). Two combination methods, Method V (Language and Letter Sounds) and Method VII (Language and Skills Development), had the next greatest number of positive differences. Method V, in contrast, had been next to the bottom on the midyear results. Method VII had been high in the midyear results. Method III (Literature) had the fourth greatest number of positive differences, while it may be remembered that Method III had had the least number of positive differences on the midyear tests. Methods IV (Skills Development) and II (Letter Sounds) followed Method III, while Method VI (Language and Literature) fell at the lowest extreme on the SAT group results.

Examination of the oral reading tests individually administered to 20 randomly selected pupils from each method produced yet another facet through which to examine the respective merits of the first semester methods. (See Table 34.) Method I (Language) again ranked high, followed by Method II (Letter Sounds), Method III (Literature), Method VI (Language and Literature), and V (Language and Letter Sounds). Methods IV (Skills Development) and VII (Language and Skills Development) ranked considerably lower.

Again, in the analysis of handwriting performed on the same 140 subjects who had been randomly selected for the individual oral reading tests, Method I (Language) held a consistently high ranking in all comparisons.

Results Related to Hypotheses

Thus, in answer to one of the original hypotheses of this study, it may be said that although no one method proved demonstrably superior to all others in all respects, certain patterns did appear which would suggest that Method I (Language) offered greater possibility of demonstrating consistent superiority than did any other method.

A second purpose of the study was to identify elements or outstanding features of method which could be associated with specific outcomes, elements which might be combined to produce a superior method for instructing low reading groups in first grade classrooms. The elements or outstanding features from each method which proved superior have been highlighted in the chapter "Analysis of Data and Findings."

Third, the question of what effect does writing, as used in these approaches, have on reading achievement, seems to be best answered through consideration of Table 38 in which the results of the methods which included writing are compared with the results of the methods which did not include ongoing instruction in, and the use of, handwriting. In general, results indicated superiority for Method I (Language) in almost all comparisons with significant superiority in paragraph meaning over both of the combinations of methods, those which did, as well as those which did not, include handwriting.

Relation of Results to Related Research[1]

This study seems to support quite positively the studies or writings of:

Edmiston and Peyton
Allison Davis
Durrell
Gavel
Linehan
Wilson and Flemming
Bond
Hildreth
Robinson
Roswell
Bruner
Russell
Wann, Dorn, and Liddle
Dale
Althouse
Sutton

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[1] All references mentioned below are fully cited in Chapter Three, "Related Research."

It seems to substantiate to a lesser degree studies or writings by:

Balow
Morrison (correlation between sentence structure and reading readiness scores)
Strickland (analysis of complexity of sentence patterns)
Loban
Thomas
Strickland (basal sentence patterns)
Detroit Great Cities Program
Ballagh
Kephart
Radler and Kephart
Getman
Simpson

Although the following studies offered pertinent background for the present research,

McConkie and Nixon
Brumbaugh
Morrison (ability to retell story)
Anderson
Blakely and Shadle
Voorhis
Long and Mayer
Houston
Cooke
Allen

the same issues were not examined in this study either directly or indirectly and therefore, no relationship is cited.

Evaluation of Pupils. Throughout the study, it was the hope of the staff to communicate the spirit of ongoing evaluation of pupils. In four of the methods (Method II, Letter Sounds; Method IV, Skills Development; Method V, Language and Letter Sounds; and Method VII, Language and Skills Development) regular pupil evaluation was part of the program. Through in-service training and individual conference, all teachers were encouraged to constantly reevaluate their own presentations as well as pupil progress.

The value of independent observers familiar with many low groups throughout the city was underscored as recommendations regarding regrouping of individual pupils were made. Approximately 17 percent of the research pupils were moved into middle groups during the 1964-65 school year.

Interest of Pupils. Findings regarding pupil reaction to the study would have to include the fact that teachers and observers generally agreed that they had seldom, if ever, seen such interest among low reading group pupils. (A detailed treatment of this subjective aspect of the study may be found in the chapter "Analysis of Data and Findings.") Although some teachers had felt under administrative pressure at first in participating in the study, they later enthusiastically expressed their commitment to the project, especially in light of what they saw happen to the low group pupil.

Pacing. Findings regarding pacing showed that the rate at which material is consumed will vary greatly depending upon the group and the teacher. As evidenced in this study, those 10 groups who finished all of the prescribed first grade reading program produced superior results to those 19 groups who completed only half of the program. The results were statistically significant on four of the five SAT subtests (word meaning, paragraph meaning, spelling, and word study skills) in this individually considered sample.

Research Staff Reactions

Reactions to the Study as a Whole

The seven methods developed and examined in this study are in no way considered the only road to successful reading achievement, yet they probably include many skills and a representative sampling of the approaches found in many previous programs in a greater or lesser degree.

Reactions to Testing

If the "right" tests are selected (i.e., the tests which test what has been directly taught), results will likely be positive in favor of the skills which have been directly taught. Thus, choice of what to teach is most important, but finding a test that correlates highly with reading success is also important.

Reactions to Methodology

The results of the preceding chapter which show few statistically significant differences between the methods on the end-of-the-year testing may perhaps be somewhat explained by the realization that throughout this study there were certain general principles considered in the writing of lessons which were common to all methods: 1) the content within each approach was considered worth learning and had proven beneficial to other pupils in other research studies; 2) all methods were new as beginning reading programs in the school system;[1] 3) the material in all methods was always presented with the idea that the pupil could learn it; 4) the pupils were never stereotyped as low group children by either teachers or peers; 5) the pupils were given concrete, but not necessarily manipulative, evidences of progress; 6) the first semester experiences led into carefully designed reading experiences for all pupils during the second semester, and 7) lesson authors had the opportunity of observing classes and soliciting teacher comment regarding the lessons; thus, a continual trial and error process took place which tended to strengthen the lessons.

More specifically, although the recommending of a single complete method may at this time seem impossible, certain aspects of methodology have stood out as having particular merit for the low reading group pupil.

Language patterns. The presentation of vocabulary in speech patterns before it is met visually seems to have merit in working with pupils whose home patterns of speech may be very different from the language patterns which they will encounter in the basal readers.

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[1] Thus, the halo effect of one group of teachers working with new materials while another worked with the ordinarily-used materials was minimized.

Literary Approach to the Basal Reader. Considering stories in the basal reader as whole stories and reading them for enjoyment with emphasis on story content may perhaps be an approach which could supplement some of the missing contact with literature which often characterizes this group.

Cursory Perusal Technique. The cursory perusal, or total consideration of a story before reading, did not seem to kill the interest of the pupils in the next step in the consideration of the story; i.e., the guided story-type reading. Rather, it permitted them the opportunity of then turning their whole consideration to the text. It might be asked whether there would be merit in trying this approach with other groups as well as the low reading group pupil, or perhaps, because this type of pupil sometimes has such a struggle with the mechanics of reading and with the understanding of a story which he has to read himself, this early satisfaction in knowing what the story's about is a better practice to confine to the low reading group.

Departures in Oral Reading Techniques. Although it was not the intent to cultivate a choral response from the pupils, this is what developed in some classrooms where the pupils were so anxious to read that they chimed in together in answer to the teacher's weaving of a story background for the text in the basal reader. Again the question might be asked: Did this reponse satisfy a need peculiar to the low reading group pupil; i.e., his need to verbally reinforce immediately what he was meeting visually? Feeling that perhaps it did, this simultaneous response was not discouraged and in many rooms proved a valuable reinforcement.

Independent Work. Throughout the study, teachers were provided with suggestions for independent activities which were directly related to the group activities of the research pupils. Whenever possible, the actual guide sheets or study sheets needed for such independent activities were provided. Thus, although teachers expended much time in reading lesson plans and familiarizing themselves with new techniques, they were for the most part freed from the manual preparation of worksheets to be used in independent activities. This seems highly desirable, especially if greater demands are to be placed upon teachers for individualizing instruction and if teachers are to be utilized to the best advantage.

Pupil Involvement. Even though the pupils in Method II (Letter Sounds), Method III (Literature), and Method IV (Skills Development) did not have handwriting after the first six weeks of school (during which the letters of the alphabet were introduced), they had many experiences involving the handling of pencils and they were led to communicate through pictures. Through this type of involvement it became natural for them to turn to pencils as a natural tool for expression.

Daily contact with other pupils in the room who were working at a more advanced level probably also rubbed off on the research pupils and intensified the possibility of their automatically turning to graphic representation as a means of expression.

Reactions to the Fostering of Independence and Creativity

Two important considerations governing both the preparation of the lesson plans for each method and for the subsequent enriched basal reader approach were independence and creativity. Pupils were encouraged in all methods to figure out things on their own whenever possible. Specific training in art as a creative and communicative experience was given especially in Methods III and VI. At the beginning of the second semester, the pupils were led, as indicated in the description of the transition period, ". . .to see the correspondence between the spoken and written word and to discover, through their own reasoning whenever possible, what a written word might be."[1] During the second semester, all pupils were given experiences in books such as Come With Us and Hop On Pop, which would lead to creative thinking and activities. The pupils were given definite training in learning how to read independently along with appropriate reinforcement, in an effort to effect positive habits toward independent reading. It was found to be not only desirable, but possible, to foster independence and creativity as valuable attributes in a program for low reading group pupils.

Reactions to Individual Methods

As reported in "Related Research," Strickland and Loban both found incomplete sentences characteristic of the less lingually equipped primary grade pupil. The emphasis in Method I (Language) and opportunities for practice in both Methods I and III (Literature), on the use of complete sentences would certainly seem to recommend itself for inclusion in a program dealing exclusively with low reading group pupils.

In Method III, the psychological effect of being able to express one's ideas without fear of ridicule, seems commendable for inclusion in a program which might be used with pupils with personal and family emotional problems such as those described in the chapter "Analysis of Data and Findings."

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[1] See p. 87.

The rigors of accomplishing the visual motor tasks assigned to Method IV (Skills Development) often seemed Herculean for the type of pupil working in this low group, but although difficult to teach, the tasks are reported by teachers to have developed self-discipline, accuracy, and good work-study habits. Further examination of how specifically to work in such tasks when perceptual difficulties have been identified might warrant further consideration.

Limitations

Design

One of the more frequently mentioned limitations of this study is that it did not include a control group against which to measure the experimental pupils. However, reference should be made to the original objective of this study which was 1) to develop and try out seven beginning reading methods for low reading group first grade pupils and 2) to evaluate the effect of these methods. It should also be noted that although the methods in this study were not researched against established programs, valuable information on pupil attitude and interests were observed which can now be used in building a program to be so measured.

Keeping all groups from instruction in "formal" reading until the beginning of the second semester should also be noted as a limitation, since evidences of readiness were observed as early as the October 26-November 2 in-service meetings. However, this seemed necessary for purposes of the study.

However, by trying to keep the methods within the limits of their definition, teachable moments occurred which teachers could not properly exploit. For example, several teachers expressed frustration in not being able to teach handwriting.

The provision that all research pupils be included in the six weeks instruction in the writing of the letters of the alphabet may have been a limitation in that it somewhat hampered any absolute measure of the effect of handwriting on a method.

Finally, it should be noted that Methods I, V, VI, and VII had the additional reinforcement during the second semester of being able to continue with the 1^2 Ginn English material during the language period, whereas Methods II, III, and IV, not having had the English materials during the first semester, in several instances found it necessary to start with the 1^1 materials during their language period rather than continue with the 1^2 materials as did the four previously mentioned methods.

Identification of Subjects

At what percentile should the line be drawn which says that one pupil will go into the low group and another into the middle group? This study, for example, undoubtedly included some pupils in this twilight zone who were so close to "middle" group ability that they probably could have worked with the middle group successfully sooner than they did. On the other hand, there were undoubtedly pupils who scored slightly above the 60th percentile on the Metropolitan who should have been included with the low group pupils. Does such arbitrary cutoff bind unnecessarily?

Testing

Difficulty. Another limitation, if it could be called such, was the necessity of testing, both in September and May, with the same instruments as those used by the other 26 first grade national studies, most of whom were working with total first grade populations and therefore were perhaps not as handicapped by the levels of difficulty of the various tests. The difficulty of the May tests may have hampered the possibility of accurately assessing the growth of many of the pupils in the Cedar Rapids study.

As to the oral reading tests, these proved a frustration to the low group pupils, most of whom knew few of the words and only became defeated by being asked twice to guess at the same word.

Adequacy. It should be noted that many of the skills these low group pupils were learning were never tested, and possibly could not be tested. For example, how does one measure the change in confidence which can take place regarding one's own ideas, or the strengthening of language facility, or the increase of creativity, or the expansion of ability to express freely the rough art forms which are another extension of one's personality?

Also, it might be asked, how good a predictor of reading success is the Metropolitan Readiness Test for the low reading group pupil.

An expression regarding the handwriting sample has already been recorded,[1] but perhaps repeating it in this section is in order. A simple, unqualified word count did not seem to adequately measure what one might hope to measure in pupil compositions. In fact, the criteria for judging the pupil handwriting samples seemed to be geared towards quantity rather than quality.

Instructional Period

Due to the national stipulation that all pupils be tested after a 140-day instructional period, the low group pupils in this study were tested after less than three months of formal reading. They could not in any respect be called mature first grade readers, and yet these first three months are often crucial, especially to the type of pupil identified in this study. It is not unlikely that the end-of-year results would have been somewhat altered had the tests taken place, for example, one month later during the first week in June rather than during the first week of May. (See Figures 1 and 2 for a comparison of reading spread during the first week of May and the first week of June.)

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[1] See p. 167.

Mobility of Pupils

Another limitation, undoubtedly met by all studies, but perhaps intensified in this study because of the non-typical first grader examined, was the mobility of the pupils. In September, 424 pupils were identified in the program. In May, 309 had completed all tests.[1] These became the base for the final results. (Six teachers were likewise dropped from the program due to moving or illness and the loss of their groups may also have been an important factor in the final results.)

Implications

Design of the Study

Although the physical handling of a study involving seven different methods, all of which were developed during the summer and fall of 1964, may have been at times unwieldy, there were perhaps compensating advantages in seeing such a variety of methods tried simultaneously. For example, teacher and pupil reaction in a broad spectrum of reading approaches could be observed simultaneously. Comparable motivation could be assured the methods through equally distributed in-service training and observation, and better definition of each method could be achieved through the continual necessity of asking "Does this fall within the framework of the method?"

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[1] Other factors such as incomplete subtests and absences were also instrumental in the drop from 424 to 309 subjects.

Testing and Measurement

The following questions arose out of this investigation. Perhaps other research will offer or has offered solutions.

1) Since the methods which ranked high in the midyear tests did not necessarily rank correspondingly high at the end of the year, the question might be asked, 'Were those things which make for a successful reader really tested at midyear?"

2) Further, is it possible to develop a test which can test what it was hoped would be taught the low group pupils during their first year in school, i.e., self-confidence, an ability to succeed at tasks at their own level, the experiencing of creative activities and an inclination to self-expression through written and other graphic experiences, and independence.

3) Is there a way in which we can effectively predict -- early -- which children will have difficulty with perceptual skills? Can we identify pupils who had perceptual difficulties at the beginning of the first grade study? Can we compare the effect of the seven methods on these pupils?

4) What evaluative procedures will provide the most effective follow-up to measure the delayed effect of some of the skills taught during the first semester?

Pupil Motivation

From the fact that 66 percent of the pupils in this study were of average or above average intelligence it can be seen that intelligence was not the critical factor to be considered in working with the low group pupils. It would appear that motivation could be of prime importance in working with the low group pupil.

An examination of the end-of-the-year SAT group results shows Method III in a rather favorable rank position. This shift from its very low midyear position raises the question, "How necessary is it to teach a specialized skills program in the beginning reading period?" when a more general and functional approach produces equal if not better results on a general reading test? It may be that the motivation produced in Method III through the direct contact with hard-back, easy-to-read books may have more to do with the reading process than we can measure. Almost directly opposite to Method III in approach would be Method IV (Skills Development). It is interesting to note that although the concentrated, direct skills approach (Method IV) produced the second best midyear results, on the end-of-year testing this approach ranked fifth. Its combination, Method VII, ranked third on the end-of-year SAT group results.

Perhaps one of the unmeasurables in this study is what effect the experience of having hard-back books had on the pupils in their attitude toward reading. Apparently, however, the books used in Method III (Literature) engendered a large part of the enthusiasm which the pupils in this group displayed for reading right from the beginning of the first semester. The content was very similar to what they already knew they enjoyed having read to them. And the appearance of the books was similar to books which had been read to them and which they associated with reading. They were involved! They were reading! Yet the demands placed upon them in the reading experience were demands which they could meet and so the experience held no frustrations for them. There seemed to be little or no conflict in the pupil's mind between what was expected in the reading of these books and what was expected in the later reading of the pre-primers.

Another implication which one might read into the findings of this study would be that more books are needed at the beginning stages of reading so that once the steam is up it can be sustained.

The eagerness of many pupils in this study to learn both reading and writing would suggest that provision should always be made for pupils to move into these skills as soon as they indicate a desire to do so.

Teacher Quality

Differences in group achievement in different classrooms reflect not only differences in members of low reading groups, but differences evident in teachers. Some groups had a Grade Equivalent of 2.0 on the SAT.

Teacher Training

How important is it to help a first grade teacher to see the practicality of presenting language as interrelated areas?

Teacher Morale

Two hours credit was provided for the teachers participating in the study on their five hour requirement every five years. It would not seem unreasonable to ask, however, if such work in the future should not receive either university credit or some other type of reimbursement which would recognize the professionalism of teachers who are willing to participate in such programs.

Pacing

What factors determine the rate of use of lessons in a basal reading program is a difficult one to answer. It would be unreasonable to assume that a rigid schedule of pages within a prescribed period of instruction be imposed on all teachers. However, it is likely that some teachers will skip or eliminate portions of lessons which the teacher feels are not to her liking. Others may, due to disposition, quality of children, or problems with classroom control, cover a minimum amount of material within a prescribed time. Considering these factors, would not some overall, suggestive guidance be in order so that instruction is more closely geared to the group rather than dictated by teacher personality?

Recommendations

Some of the following recommendations are made because it is felt that the results of organized observation, and to some extent, the tests used, seem to provide enough evidence to consider their use on a wide basis. (Designated A. in the following.) Others are suggested for further study because the evidence seems to point favorably to their adoption, but a wide spread adoption of practices should depend upon further research. (Designated B. in the following.)

A. Recommended for Use on a Wide Basis

Identification. Observe low group pupils closely during the first few months of school. Adjust grouping and approach according to testing, observation, and supplemental data. Standardized tests, although helpful for identification, should not be the exclusive instrument for identifying the low reading group pupil.

Testing. Use readiness tests which include the types of comprehensive activities demanded in the actual reading act. The importance of this is pointed up by the fact that in this study, the methods whose pupils scored high on the midyear tests did not all score correspondingly high in the end-of-year tests, many of which more nearly approximated a true reading situation.

Materials. Provide materials for the low group pupil which are different from those used by other groups in the room so that he may avoid the stereotype "low," especially in his first experiences with school.

introduce material which is colorful and appealing to pupils, which represents "reading" to them early in the year, and in which they can experience success. The low group pupil needs enrichment as much as, if not more than, the child at the top. He needs it for reinforcement, but he also needs it to satisfy his desire to do what he has come to associate with school, and most especially with first grade, i.e., learn to read.

Grouping. Keep the groups to 8 or less if possible. Avoid creaming off the top of the group. (Groups seemed to move with more strength, enthusiasm, and success when interaction was allowed between the stronger pupils and the poorer ones.) Move pupils freely when they have demonstrated the desire and ability to work with a "higher" group. Double grouping, i.e., allowing a pupil to work in the next higher group as well as his own group, can sometimes be helpful in effecting this change.

Pacing. Encourage teachers to keep the program moving. Avoid maximum effort for minimum response. Realize that vocabulary and skills training is repeated throughout the pre-primer and primer program and that a steady, consistent pace may provide greater dividends with the low group child than insistence on mastery at every level of each skill. However, realize too, that a child who is highly motivated and is moving successfully forward at his own pace will probably be a stronger reader than the child who is pushed through material too fast and may have to be retaught later on.

Teacher Factor. Never underestimate the importance of an excellent teacher. (Within the same methods, it was found that pupils of similar background, I.Q., and readiness scores performed very differently depending upon the teacher.) Choose teachers who understand what needs to be accomplished with these low group pupils. Augment the excellence of these teachers with regular in-service meetings which deal specifically with the teaching of the low group pupil. Help teachers become cognizant of the theoretical base for the method being used, as well as of the theory of how children learn to read. Include principals who wish to participate in such meetings so that there may be a closer rapport between teacher and principal in realizing what is to be accomplished. Consider carefully how to include flexibility in the program so that the independent teacher may be allowed to exercise her ingenuity to the fullest.

Pupil Morale. Provide many situations where the pupil can express himself freely without fear of ridicule. Utilize opportunities and materials to foster independence and creativity.

Present material with the idea that the pupil can learn it. Avoid characterizing these pupils as the "low group."

B. Recommended for Further Study

The following aspects of this study seemed to have enough merit to warrant further study:

Methodology. 1) The presentation of new vocabulary in oral speech patterns before it is met visually. 2) The utilization of the cursory perusal technique in approaching a story. (This technique seemed natural for pupils even though it is somewhat contrary to the trend in today's basal reader manuals.) 3) The permitting of pupils to read aloud what they see as they first examine a story. (This might or might not result in a choral reading effect.) The testing longitudinally of the effect of this practice on both silent and oral reading. 4) The increasing of pupil exposure to good oral reading techniques by means of teacher example. 5) The consideration of stories in the basal reader as whole stories which are to be read for enjoyment with emphasis on story content. 6) The separation of word study lessons from stories in the basal reader. 7) The keeping of individual and class evaluation records of progress in word study skills so that reinforcement may be given as needed. 8) The inclusion of opportunities for practice in the use of complete sentences. 9) The building of methodology from a broad language foundation which combines speaking, listening, reading, and writing, with an emphasis on the teaching of the upper and lower-case letters of a manuscript alphabet early in the first grade. 10) The fostering of low group pupil independence and creativity.

Combining Methods. Although many recommendations have actually been included in the preceding pages, a final word must be that further study is needed on how to isolate the most valuable elements of each of the methods in this study and combine them. If one looks at the results on the SAT only, one might think that a logical combination would be Methods I and III. Yet the actual combination, Method VI, ranked lower than any other method on almost every test. What happened in the process of combining these two methods? At this writing, it would be difficult to state accurately what did contribute to this situation. Perhaps, as has been stated earlier in the report,[1] the wrong parts of of these two methods were combined, or perhaps the provision for practice, reinforcement, or noting interrelationships was inadequate. As the teachers in Method VI were allowed to choose the lessons from Method III which they felt would be most valuable for their pupils, there may have been an element of misjudgment working which could be eliminated in giving closer examination to the possibility of such a combination.

Individualizing Instruction. If time permitted, an interesting comparative study might be conducted to see which method more effectively reached the brighter pupils within the low group and which method produced the best results among the so-called dullest members of the population.

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[1] See p. 143.

A study might also examine the possibility of early identification and remediation of pupils with acute perceptual problems.

Comparing with Established Methods. Based on the exploration that has been accomplished in the present study, the next step would seem to be to test a carefully designed combination method against the most commonly used approach for slow maturing first grade readers. A longitudinal study of the effect of such first grade training would also seem desirable as it is unlikely that tests taken at the end of the first year are adequate measures of longterm reading success.

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Note: Reference pertaining to tests used for measurement and instructional materials used during the first and second semesters are fully cited in Chapter IV, "Procedure." Sample items from tests are included in Chapter V, "Analysis of Data and Findings."

APPENDIX

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APPENDIX A

Terminal Non-standardized Individual Tests

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FRY PHONETICALLY REGULAR WORDS ORAL READING TEST

Child's Name________________________________Date______________

School____________________________Room_________Code Number_______

Examiner_______________________Number of words read correctly_____

1. nap
2. pen
3. hid
4. job
5. rug
6. shade
7. drive
8. joke
9. mule
10. plain
11. hay
12. keen
13. least
14. loan
15. show
16. walk
17. haul
18. jaw
19. soil
20. joy
21. frown
22. trout
23. term
24. curl
25. birch
26. rare
27. star
28. porch
29. smooth
30. shook

Directions: Have pupil read words from one copy while examiner makes another copy. Do not give pupil a second chance but accept immediate self-correction. Let every student try the whole first column. If he gets two words correct from word number six on, let him try the whole second column.

GATES WORD PRONUNCIATION TEST

1. so
2. we
3. as
4. go
5. the
6. not
7. how
8. may
9. king
10. here
11. grow
12. late
13. every
14. about
15. paper
16. blind
17. window
18. family
19. perhaps
20. plaster
21. passenger
22. wander
23. interest
24. chocolate
25. dispute
26. portion
27. conductor
28. brightness
29. intelligent
30. construct
31. position
32. profitable
33. irregular
34. schoolmaster
35. lamentation
36. community
37. satisfactory
38. illustrious
39. superstition
40. affectionate

DIRECTIONS: Have the child read the words out loud. Tell him you would like him to read some words for you. If he fails the first time, ask him to try the word again. Continue until ten consecutive words have been missed. As the words become difficult, special care should be taken to encourage the child. The score is one point for each word correctly pronounced on the first trial, one-half point for each word correctly pronounced on the second trial. (Note: 9 1/2 correct would be scored as 10.)

APPENDIX B

Representative Lesson Plans

First Semester
Second Semester

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Representative Lessons: Method I (Language)

Language - Page 50

Relating Experiences; Discussion

Materials needed: Any color charts or word cards on which color words are printed. (It is not necessary to make these if some are not available.) A copy of My Picture Dictionary for each child.

1. Relating personal experiences.
2. Discussing the picture.
3. Show color chart (if available). Have the color words named. If desirable, a spelling game can be played, similar to that suggested in earlier lessons. If word cards are available for colors shown on color chart, do the following:

   * Distribute the cards on which color words are printed. Name a color word and have the card matched with that on a color chart. (If color charts are posted in a high place, as above a chalkboard, have a child use a pointer or a yard stick. It is necessary that any word used in this way be identified by having it framed or pointed to directly, etc.)

   * Have each child locate page 46 in My Picture Dictionary. Write a color word on the chalkboard or display card on which it is printed. Have the children frame it on page 46. Have the word named.

4. Use page 35 in My Practice Book. (This should be done under close supervision to insure accuracy.)

Seatwork: Have the children draw and color objects on the back of page 35 of My Practice Book. Have them write the color word beside each picture. Encourage them to use page 46 of My Picture Dictionary for accuracy in writing color words.

Note: Have each child name his favorite color. Then have him write the color word on lined oaktag provided for this purpose to add to his personal word cards.

Representative Lessons: Method II (Letter Sounds)

UNIT II -- LESSON 50a

Listening for Beginning Sounds in Words (F)

Group:

Begin the lesson with the use of objects as outlined in the procedure in the Teacher's Manual for page 19 of Getting Ready to Read.

The use of the pictures in this lesson is to recall those pictured words which begin with the same sound as fish and to make a record of this thinking by making a line from left to right under each of the appropriate pictures. The marking with pencils is to be done as a group activity.

If time permits use any of the exercises listed under "Provision For Individual Differences" which might be helpful to the majority of the children in the group.

Give the children an opportunity to show their pictures of a "Fiffer-feffer-feff."*

Individual:

1. Since the page in the children's books cannot be cut for making the small copies of the picture sound chart a duplicate of the page has been made for the prepared work assignment. Give each child a piece of green construction paper. The picture of the fish is to be posted at the top of the sheet as it is the key picture. The rest of the pictures which represent words beginning with the same sound as fish should be posted below it. Ask the children to leave space around each picture. (Later the letters will be added to the chart.) The completed page in the workbook may serve as a reference for those who need help in locating the correct pictures.

---

*Keep these pictures as they will be used in Lesson 54b

Representative Lessons: Method III (Literature)

LESSON NUMBER 8

TITLE OF BOOK -- Good Night, Mr. Beetle

PURPOSES OF LESSON -- Learning to handle and use books
Literary appreciation

SKILLS TO BE DEVELOPED -- Individual enjoyment of books
Association of spoken word with the printed word

VOCABULARY

Oral -- pages, front, back, left, right

INTRODUCTION

The teacher will show the book, having the children recall the title. At this time she will reveal that there is a book for each child. She will distribute the books and allow the pupils to peruse them, examining pictures and commenting spontaneously. It will be interesting and informative to note the manner in which each youngster handles his book. From her observations the teacher will determine how much instruction will be necessary in the skills of holding a book, turning the pages, left to right progression, etc.

As the children are examining their own books for the first time, the teacher must keep in mind that this is an experience to be enjoyed, that the children will share their enjoyment verbally, that they should be encouraged to express themselves orally.

READING AND INTERPRETATION OF BOOK

Following the individual examination of the books, the teacher will ask the children to close their books and to look at the front cover. She will call attention to the title, print the words "Good Night" on the chalkboard, and perhaps direct attention to the bulletin board caption, eliciting comparison of the written words. As the title page is located by both teacher and pupils, they will again locate the words "Good Night" and compare with the words on the chalkboard and bulletin board. The teacher and children will then read the book together, page by page. Children should be allowed to comment freely, and after a brief discussion, the books shall be collected. It is important that all children listen and follow directions explicitly in this part of the lesson.

EXTENSION OF SKILLS

An assortment of pieces of colored paper (12" x 18") may be placed on a table, including black, gray, dark blue, dark green, brown, plus several bright colors. Each child is to choose a color which makes him think of night. The teacher will note carefully which color each person chooses, determining if he has grasped the concept of darkness of night and of color. To give the teacher further insight into the children's background of experiences, she might ask some of the children, "Why does brown (color) make you think of night?" This should be done in a very casual manner so the children will not feel defensive. Several of the children may not have any reason for the colors they chose, and this should be accepted just as casually.

The teacher will have prepared strips of white paper (see teacher preparation) and will demonstrate how they can be pasted around the edges of the colored paper to make a frame. She may demonstrate, also, how a picture and a word may be pasted within this frame. The children may then, one by one, be given their pictures and word strips (prepared in lessons 6 and 7) from the bulletin board. As each child receives his strip, he shall whisper in the teacher's ear what it says (Good night). The pasting may be done independently.

When completed, these "framed pictures" shall be taken home, and the children shall be encouraged to read them to their parents and to ask that they be put up somewhere at home, perhaps on a bulletin board, a wall, or a door. It is intended that exposure to the words be thus repeated, reinforcing the concept of the association of the spoken word to the written word.

Representative Lesson Plans: Method IV (Skills Development)

Method IV: Week No. 13 P.M. 15"

Visual Discrimination II: Plate 19 (Test)-Simple Reversals in Word Forms. Have children fold sheet in half and use a marker. Mark together in class. Teacher should collect, correct, and record results on individual and Class Evaluation Sheets. Save plate for pupils' file.

Mon

Rhyming: Plate 10. Administer according to Teacher's Guide.

Seatwork: Visual Motor, Supplementary Worksheet #37. Urge the children to think in terms of making the largest shape first and then filling in the detail. Suggest that they keep the hand they don't write with under the original design so that they won't lose their place. You should look at the papers after class to see who will need the closest supervision in doing Plate 4.

Visual Motor II: Plate 4. Tell the children that now that they have practiced with large designs they will want to see what careful work they can do with some very small designs. (Note: If you think your group is not ready, pre-cut Plate 4 down the center and administer only the easier half.) Provide the children with well sharpened pencils for this work. If children are capable of doing the whole page have them fold the sheet down the middle. In either case, they should use markers to isolate each design.

Tues

Seatwork: Visual Motor Supplementary Worksheet #38.

Visual Discrimination II: Plate 20 (Test) Administer in class. Teacher corrects, enters results on class and individual sheets, and saves plate for pupils' files. Have children fold paper and use markers.

Wed

Rhyming: Use any remaining time for rhyming review. Teacher says a word, children are to answer in pantomime with a rhyming word. Teacher may use words such as sun(run), talk(walk), row(throw), bump(jump), trip(skip), bow(sew), flake(wake), stop(hop), bush(push), glove(shove), pickle(tickle), sneeze(squeeze), tub(rub). If the children cannot think of a rhyming word the teacher may whisper the action word in one child's ear and let him say the word and act out its rhyming mate.

Seatwork: Visual Motor II, Plate 5- If you think the children are ready to handle it successfully. If not, choose from Independent Activities, Level II according to the needs of your group.

Visual Discrimination II: Plate 21 (Test) Administer and record as above.

Thur

Rhyming: Continue with rhyming review as outlined above. Have children try to guess what each one drew in the morning.

Seatwork: Visual Motor Supplementary Worksheet #39. Have children print their names on the back of the sheet. The children may color these worksheets so that like forms are the same colors. Explain that the class will choose one of these sheets tomorrow to put on display.

Representative Lesson Plans: Second Semester

THE PRE- PRIMER PROGRAM

MY LITTLE GREEN STORY BOOK

Lesson 33: (Reading the story "A Ride," pp. 23-28)

Materials Needed:

1. Copies of My Little Green Story Book, 1 per pupil
2. Pictures depicting fall countryside scenes and/or page 39 in My Do and Learn Book
3. Prepared work assignment: similar to assignment in lesson 32 using letters Cc, Ww, Gg -- 1 copy per pupil
4. Large drawing paper

Assembling the group:

Write the following sentence on the blackboard for calling the children together as a group:

Stop work and come here.

Figuring Out a New Word and Sentence Pattern

When all children are assembled write the following question on the blackboard:

Can I see (name of child) ?

Guide the children to discover the new punctuation mark and its function.

Have the children read the question for the first time alone.

Write this question a few more times using other names. As the children read a question call attention to those children who read it in a questioning way.

Can I see ___________?

Can I see ___________?

Can I see ___________?

Now, use the word we in place of I. Allow the children to identify the word we on their own.

Can we see ___________?

Can we see ___________?

Undoubtedly, the comparison in meaning for "I" and "we" will probably come up naturally for discussion.

Telling and Reading the Stories ("Work and Work," "A Ride")

Introduce the reading by recalling the experiences in "Work and Work."

> "Do you remember? Susan and Tom and Betty wanted to go for a ride but Father said they had some work to do first. They had to wash the car. And, they were having such a good time washing the car when something funny happened. Flip_ *(turn the story over to the children) _ _ _.*"
>
> "You may open your books and look again at the funny thing that happened. . ."

After examining the pictures have the children recall, then locate and read what Tom said to Pony. (Page 22 -- the words and sentence structure in this passage will recur in the next story.)

Continue the story:

> Soon the car was all shined up and the children hurried inside the house to get cleaned up for the ride. Susan even used her own towel to dry her face and hands.
>
> Mother called, "Susan! Betty! Tom! Come here! We are all ready!"

Allow time for the children to enjoyably peruse the story "A Ride."

Discuss in a spontaneous manner, for *a few moments* how far it probably was to the vegetable and fruit stand. Show some pictures of fall countryside scenes (including, if desired, pictures on page 39 of *My Do and Learn Book*) to help the children visualize the ride, realize the distance, and understand the appropriateness of the story plot.

Give purpose to the more careful reading of the story by suggesting that all the things Tom, Betty, Susan and Mother and Father say in the story will probably help us know a great deal more about the ride.

Weave a story together with an oral narration based on the pictures and conversation based on the written text.

Independent Activities:

1. Each child may pretend he went on the ride with Tom and his family and choose one of the pumpkins at the stand he would like to have to make a jack-o-lantern. (A small one, a big one, a fat one, a tall one, etc.) Using any desired art materials each child may turn his pumpkin into a jack-o-lantern. For some children this may lead into the writing on an individual story.

2. Children may want to write stories independent of the theme of this story.

3. Use the prepared work assignment. The mechanics and purpose of this assignment is similar to the assignment in lesson 32. The words used for a stimulus are words which frequently recurred in this story and will recur in the next and last story of Part II. This clue provides one aid for remembering or figuring out these words when seen again.

Representative Lesson Plans: Second Semester

SPECIAL SERIES LESSONS
for
COME WITH US

To Precede Primer: to be used only by those children who need special reinforcement.

Lesson II

Purposes: (1) Developing recognition of the new vocabulary through usage.
(2) Extending a story for the purpose of vocabulary reinforcement.

Materials Needed:

1. A space at the chalkboard for each child
2. The cut-outs made following Lesson I
3. A sheet of tagboard to be used for a chart. (See p. 3 for details of chart.)
4. Wall pocket chart and word cards for: are (2), here (2), Betty (1), Tom (1), and (1), We (1).

Assembling the group:

As a means of beckoning the children to class, write the following sentences on the chalkboard.

> Here are the chairs.
> The chairs are for you.
> Come to the chairs.

As the children assemble, have the sentences read. Then write:

Are (Ricky) and (Lisa) here?
Are (Becky) and (Jeff) here?

Have the questions answered orally.

Examination and usage of the word "are":

Say to the children,

> "Who remembers the title of the story we read about the children going to the city to visit Aunt Betty?"

As the children respond, write the title on the chalkboard:

Here We Are

Continue:

"We had a new word in this title. Who can tell us what it was?"

Have "Are" identified and underlined in the title. Then invite various children to locate and underline the word "are" in the sentences which are on the chalkboard. Have the word spelled, noting that it has been used in both the capitalized and the uncapitalized forms.

Using the wall pocket chart, have the word "are" located, then used in two sentences which may be built in the chart. Examples:

Here are Betty and Tom.
We are here.

Tell the children that sometimes if we write a word several times, it helps us to learn it. Demonstrate how they could go to the chalkboard, write the word (spelling it as it is written), and then pronounce it. It may be written first in the uncapitalized form, then in the capitalized form.

Have the children go to the chalkboard (have a space prepared for each), and write and pronounce the word "are" as many times as they wish. Circulate among the children, helping and encouraging them as needed.

You may wish to have the children write sentences in which the word "are" appears. This is optional, and may be done according to the needs of the group.

Development of a reference chart:

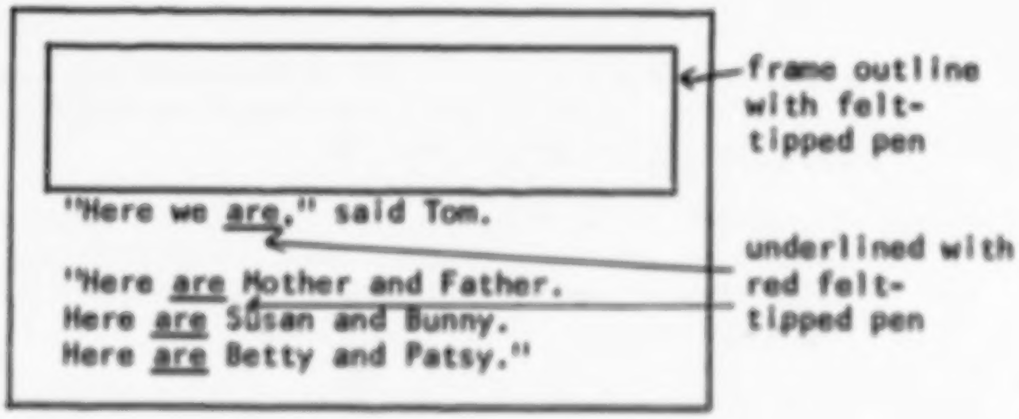
As the children complete the writing at the chalkboard, have them return to their chairs in the reading circle. Showing a copy of *Come With Us*, help the children recall the story, "Here We Are." Tell them that there is a part of that story which is not told in the book, but which you will tell them now. Continue:

> After Patsy was rescued from the taxicab, the whole family walked to the apartment building. Father told the children that many families lived in this building, and that each family had several rooms in which to live. These sets of rooms were called apartments. The building was very tall, and it was necessary for it to have an elevator so people could easily get to their apartments. (If pictures of apartment buildings are available, show them at this time.)
>
> Father opened the door to the apartment house, and they went in. There was Aunt Betty waiting for them!
>
> "Here we are," said Tom.

"Here are Mother and Father.
Here are Susan and Bunny.
Here are Betty and Patsy."

Encourage comments concerning the greetings which Aunt Betty and the family had for each other.

Show the tagboard chart which has been prepared thus:



"Here we are," said Tom.

"Here are Mother and Father.
Here are Susan and Bunny.
Here are Betty and Patsy."

frame outline with felt-tipped pen

underlined with red felt-tipped pen

Have the sentences read, directing attention to the fact that these were Tom's words when they saw Aunt Betty.

In the space at the top, have the children arrange the cut-outs which were made following Lesson I, depicting the scene of Aunt Betty greeting the family. The cut-outs may be pasted in place, and one child may be assigned the duty of completing the picture by drawing the door, floor, or other items he feels are necessary.

Direct attention to the fact that the words "are" are underlined. Explain to the children that this chart is designed to help them remember the word "are", and that by remembering the story they just heard, and by referring to the chart often, they will be able to easily remember this word.

After the picture has been completed, post this chart in a spot where it can be seen and used when the children are in reading class.

Independent Activities:

1. The children may return to their places at the chalkboard and copy the sentences from the above chart. These sentences may be illustrated by chalk outline drawings.
2. On a 12" x 18" piece of manila paper, have each child illustrate his concept of an apartment building. (Use the paper the "tall way.")

Representative Lesson Plans: Second Semester

THE PRIMER PROGRAM

THE LITTLE WHITE HOUSE

Lesson 7: Reading the story, "A Surprise for Father," pp. 23-26.

The story in this lesson contains the following new words:

in --introduced through written context in *My Do and Learn Book*, (page 12) in Lesson 6

box --introduced through exercises in establishing and practicing the alphabetic principle, and through written context in *My Do and Learn Book* (page 12)

white--introduced through context in the title of the book, written in the color chart, read in *My Picture Dictionary*, compared with the word *where*, read in context in *My Do and Learn Book* (page 12)

good --will be introduced through oral context and pronunciation in oral telling of the story (during the reading of the story)

In this lesson, *none* of these words will be shown in their written form until they are seen by the children in the perusal or reading of the story. Attention is called however, to using the words *naturally* and *appropriately* in the oral presentation of the story. Be continually alert as to how well children grasp new words through the clues which they are being trained to use. Frequently during the reading of the story they will use these clues at an "inconscious level."

Materials needed:

1. *Paper clips* -- to clip together a few pages of the story book so as page 26 cannot be read in the perusal of the story.
2. *A white box* -- preferably as similar as possible to the box used in the story -- (white rectangular box tied with red ribbon).
3. *A white (or colored) box containing a surprise object* -- the shape of the box should give a clue as to what the object is. (OPTIONAL)
4. Copies of *The Little White House*.
5. Copies of *My Do and Learn Book*, p. 14 and (OPTIONAL) p. 13.
6. *Word cards* -- appropriate words for reference in story writing: *in*, *box*, *get*, *want*, *something*, and color words.

Assembling as a Group:

Use the following written sentences:

Come here, now.
I have a surprise* for you.

Introduction and Perusal of the story:

Recall the theme of exercise on page 12 of My Do and Learn Book (surprises inside of boxes for special people). Explain that today Father is going to get a special surprise. Pose the question, "What do you suppose would be a good name for the story?" After speculation on the part of the children, name the story (but do not write it on the blackboard) and ask the children to locate it in their storybooks.

Allow for perusal of the story, each child in his own way, and when the children notice that the paper clip keeps them from determining what Father's surprise is refer them to the sentence on the blackboard used for assembling the group, I have a surprise for you.

Discussion Based on Skimming Preceding Group Reading of the Story:

Ask the children to close their books and, through discussion using lead questions, discuss the contents of the story based on skimming. Do not verify any answers at this time which the children seem to question. The children will become aware of these details on inferences as the story is told and read.

What was the surprise?
(Answers will be speculations)

What did the box look like?
(This calls for detail. After the children's ideas are given show THE BOX and let the children describe it.)

Does this box give you any more ideas as to what the surprise might be?

Where was the box?

(Few children will probably remember that it was up high. It should be noted that the picture does not indicate the exact place. This question is asked as the word down is used in the story when referring to getting the box down to give to Father.)

*A review word used frequently in this story.

Reading the story as a group:

Now, have the children open their books and enjoy reading about this fun experience of Tom, Betty and Susan. Have the children remove the paper clip at the appropriate time in the development of the story. The story should be woven together using oral and written text. (Be sure that "it reads like a story.")

In the oral text you may want to be aware of these language patterns in the story.

phrases:

in my big red chair
in this box
in the box
in the white box
in this white box

modifiers:

the big red chair
my big red chair
my surprise
the big box
this box
a big white box
the white box
this white box
good surprise
good chair
good home

Discussion following the reading: (OPTIONAL)

A discussion may develop around this question:

"Why do you suppose Tom, Betty and Susan gave Father a surprise?"

If the children decide that it *may* be Father's birthday this poem would provide an appropriate listening experience -- for deepening comprehension and for participating as an audience with a good example of oral reading.

CELEBRATING DAD

Early in the morning
I hear secrets in the air ---
Words like "shirts" and "socks"
and "ties"
Are whispered everywhere.

In the sunny kitchen
Mother's baking cake,
Fluffing up white frosting
All for someone's sake.

Hear the children laughing!
Even the dog looks glad!
What a pleasant day is this --
"Happy birthday, Dad!"

Henrietta Lodewyk Ensign

Independent activities:

1. Use page 14 in My Do and Learn Book for review of the new word good in context. For visual scrutiny the children can underline the word in each sentence before proceeding to read the sentences and completing the exercise.

2. Use either of the following creative experiences.

   Writing a story based on a surprise. A box with an actual object in it may be used for motivation. Words which may be helpful to the children can be arranged in the pocket chart. (See Materials needed.)

   Making a picture of Father's birthday cake (if the children have established that this is Father's birthday). The children may want to use the words: Birthday, Happy, Father, to, you, etc.

3. (OPTIONAL) Page 13 in My Do and Learn Book may be used for further experience practice of the word down in various patterns: Come down and Sat down.

4. (OPTIONAL) The children may independently want to read alone, or with a partner, the story in My Little Green Story Book when Mother received the surprise mixing bowls, "A Surprise for Mother," pp. 55-58, and then continue on to read the story "A Surprise Cake," pp. 59-63.

   IF THE PROGRAM IS MOVING TOO FAST AT THIS TIME FOR YOUR GROUP YOU MAY WANT TO USE THESE STORIES AS AN OPTIONAL LESSON.

Representative Lesson Plans: Second Semester

THE PRIMER PROGRAM

HOP ON POP
(by Dr. Seuss)

Lesson 25: Reading pages 1-30 and Creating "Stories"

Before this lesson place a rubber band around each book in order to hold the last part of the book together (pages 32 to end of book).

Materials needed:

1. Copies of the book, Hop on Pop.
2. Copies of My Picture Dictionary or large chart for page 37.
3. Drawing paper 9" x12" (size of pages in book Hop on Pop).
4. Writing paper.

Assembling as a group:

Use the following printed sentences to call the group together.

See see.
Come to me.

Use this printed sentence when presenting the books.

Look at the book.

Directing Attention to Connecting Words:

1. Hold open your copy of the book so that all children can see pages 4 and 5. With a card, cover all the text at the top of both pages.

   Center attention on the position of the cup and the pup in each of these pictures. Uncover the sentences above the pictures and read them, emphasizing the prepositions in and on.

   Turn to pages 6 and 7 and repeat this procedure.

   If pages 16 and 17, 26 and 27 were read in Lesson 24, they also may be used in a similar manner.

2. Pass out copies of My Picture Dictionary (or place in front of the children the chart for page 37) and ask the children to turn to page 37. Let the children first just talk about the actions of the squirrels. Then explain that the words tell where the squirrels are or where they are going. (If as soon as the children open their books they begin to read the words this sequence in procedure may need to be altered.) Let the children figure out what the words say.

Call attention to the words at the top of the page. By covering the ful in Helpful it is likely that many children in the group can figure out for themselves what the title of this page is.

3. Now, explain that Dr. Seuss used many rhyming words in writing his book but that he used many of these Helpful Little Words, too. Refer back to the pages in Hop on Pop.

Reading the book:

Read the first half of the book as an enjoyable experience. Provide an atmosphere in which the children feel free to discover, to read aloud and to react overly to the ideas depicted in the illustrations.

Creating "Stories"

Attempt to stimulate any desire the children may have to create "Dr. Seuss-like stories."

A suggested approach:

Begin with the pictures or words and sentences the children developed on their own as a part of the independent activity in Lesson 24. Give the children time to share some of these.

Then make such a comment as this. "If Dr. Seuss asked us to write some more pages for his book what would you say on these pages?" Allow time for the children to react, being accepting of all suggestions. "We do have some good ideas. Let's try to write some of these down so we won't forget them. I'll make a big rectangle on the board so it looks just like one of the big open pages in Hop on Pop. Now, I'll write just what you tell me to write. You can tell me where on this make-believe page you want me to write it."

Follow through with the writing down of the children's ideas. Let them feel they are involved in the actual writing by having them help with the spelling of the words.

Discuss, with the ideas coming from the children, what the pictures might be like. (All children do not have to agree.)

If time permits, several such pages may be developed.

Independent Activities:

Again the children should be provided with the opportunity to react to this book according to their own desire.

Some suggested activities are:

1. Read the book alone or with a partner of the child's own choosing. The child may even want to remove the rubber band and explore further into the book.

2. Copy the text from one of the "stories" developed by the group and illustrate it. This activity may be done using 9" x 13" drawing paper. If the children have difficulty judging size of letters and alignment of letters the text may be copied on writing paper, cut and then pasted on on the drawing paper. These "stories" may be clipped in each child's copy of *Hop on Pop*.

3. React to a favorite page in the book by copying the text and making a "Dr. Seuss" picture.

4. Draw a creative version of a funny animal.

5. Write independently a page of text and illustrate it. If desired, this may be used as a page in the book.

6. Write pairs of rhyming words.

Through sharing of individual activities completed in Lesson 24, some children may be motivated to try to do some of the activities listed in this lesson which did not seem too inviting when presented in the previous lesson. Also, the children have probably become more involved in the theme and techniques used in the book.

Representative Lesson Plans: Second Semester

THE PRIMER PROGRAM
MR. AND MRS. BIG

Lesson 49: Reading "Mr. Big at Work" (Group reading)

Word Study

Before the lesson write across the blackboard the words used in the previous lesson.

pet red big had sun cat

While another group is reading ask the children to come up, one at a time, and write the word they made under each appropriate word on the blackboard. (Some words may appear many times.) (The taking of turns may be accomplished by placing the children's names on the blackboard. As each child completes the task he erases his name from the list.)

At the beginning of the group lesson, the children may examine the word lists and may enjoy spending a few minutes trying to read all the words. (Try to give each child an opportunity to feel that he alone is figuring out the word.)

Now write each of these pairs and ask the children to read the new word.

pet	had	sun
peck	hack	suck

(In the story of this lesson the children will read the words chickens, cluck, quack, ducks.)

Peruse and Read Story:

Recall Mr. and Mrs. Big's early morning activities by re-examining the pictures, and perhaps some pertinent sentences in the text, for the stories "Sun Up" and "Mrs. Big and Pet."

Then continue finding out about the early morning farm chores by perusing the story "Mr. Big at Work." If possible, place in front of the children some pictures of these animals, (chickens, ducks, pigs, cows, horse) which help to make them seem more real and which better show what they really look like (coloring, texture of fur, body structure, etc.)

Read the story as a group experience weaving together an oral and a written text.

If a record of farm animal sounds is available, it can be used at this time in order to help the children imagine, in more vivid manner, what it was like at the farm so early in the morning when only the sounds of animals could be heard.

Independent Activity:

1. Write the following words on the blackboard. Above each word print (with another color if preferred) the designated three letters.

t f p	m s k	v m g	b n d
hen	had	ran	pig

   Instruct the children to write the word printed on the blackboard and to try to pronounce a new word by substituting for the first letter each of the three letters printed above the word. All real words should be written under the original word. Pencil outline pictures may be made to indicate the meaning of the word.

2. *If* the children seem to have enough background and enough personal stimulation, they can make pictures of the animals on Mr. Big's farm. The animals should be closely observed to note their individual characteristics. To further help the children visualize these animals so that they have confidence and feel success in drawing them, encourage them to examine other books and pictures. These animals may be drawn and made into large cut-outs. More than one type of art material may be used, if desired.*

3. Some children may have become more interested in reading other farm stories. To increase their choices they may even want to make contact with other classrooms in order to borrow books for browsing and reading.

---

*This activity should be used only if it will deepen understanding, widen interpretation, and help the children to feel more involved in the experience.

APPENDIX C

Forms

Observation Forms
Teacher's Evaluation of Lesson Plans
Teacher Evaluation of Pupil Progress
Forms Filled Out By Teachers at Last In-service Meeting

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OBSERVATION RECORD
Reading Research, 1964

School ______________________ Date __________

A.M.
Teacher ______________________ Time __________ P.M.

Observer ______________________ Lesson # __________

Children's Participation:
General Tone ______________________ Individual __________

General Comments ______________________

Methodology:
Teacher's understanding of method taught ______________________

Teacher adheres to the method ______________________

Use of manual: ______________________

Evidence of creativity: ______________________

Follow-up: ______________________

Enrichment
Type? ______________________

Group, individual or both? ______________________

Pre-planning? ______________________

Effectiveness? ______________________

Use? ______________________

General Comment: ______________________

____

Relationship With Slow Learning Group

Pacing ______________________

Reinforcement (clinching it with the child) ______________________

Handling of individual needs ______________________

Teacher attitude ______________________

General comment: ______________________

____

OBSERVATION RECORD
Reading Research, 1964

School: ____________________ Teacher: ________________

Observer: __________________ Method: ________________

OBSERVATIONS:	Date: Time:
METHODOLOGY:	
1. Does teacher adhere to method?	
2. Is teaching mechanical, natural, creative?	
3. Is teaching done with pressure, strain, ease, enjoyment?	
4. Is teaching enriched in any way?	
5. Does teaching seem to be effective?	
6. Does lesson show good planning, organization; lack of planning; lack of organization?	
7. Does teacher use appropriate follow-up or seatwork?	
TEACHER'S RELATIONSHIP WITH SLOW LEARNING GROUP	
1. Is the pacing too fast; too slow; comfortable for group?	
2. Does the teacher seem aware of individual pupils who do not profit from instruction?	
3. Does teacher give attention to these needs?	
4. Is the teacher's attitude toward this group warm, friendly, impatient, crisp, curt, patient, business-like, respectful, firm?	
LEARNING CLIMATE	
1. Is the source of control the teacher, pupil, group?	
2. Is class climate cooperative, rigid, dutifully obedient, discordant, pleasant, uncomfortable, comfortable	
CHILD'S RESPONSE:	
1. Do the pupils respond with interest, reluctance, enthusiasm, disinterest, bedlam?	
2. Are there individual pupils who affect the group adversely?	

CEDAR RAPIDS PUBLIC SCHOOLS
OBSERVATION RECORD
Reading Research, 1964-1965

School: ______________________ Teacher: ______________________
Observer: ______________________ Method: ______________________

OBSERVATIONS:	Time: Date
METHODOLOGY:	
1. Does teacher adhere to the method?	
a. Does she use the perual technique properly?	
b. Are the words introduced in speech patterns?	
c. Does she weave the picture and narrative together?	
d. Does she avoid the traditional answer and answer approach?	
e. Thus, has she captured the spirit of what we are trying to do?	
2. Is teaching mechanical, natural, creative?	
3. Is teaching done with strain, ease, etc.?	
4. Is teaching enriched in any way?	
5. Is teaching effective?	
a. Are the children mastering the vocabulary?	
b. Are they developing adequate word analysis techniques?	
c. What is the quality of the oral reading?	
d. What is the quality of comprehension?	
e. Are the children transferring their learnings?	
6. Is the lesson well-planned (organized)?	
7. Is appropriate followup or seatwork used?	
TEACHER'S RELATIONSHIP WITH SLOW LEARNING GROUP	
1. Pacing: fast? slow? comfortable?	
2. Is teacher aware of individual pupils' needs?	
3. Does she remedy them?	
4. Teacher's attitude.	
LEARNING CLIMATE	
1. Type of control?	
2. Class climate?	
3. Does the teacher capitalize on every learning situation?	
CHILD'S RESPONSE:	
1. Quality of response	
2. Was the teacher able to sustain interest for the full 20-minute period?	
3. Are there individual pupils who affect the group adversely?	
OTHER: Is there something that is distinctly different about this teacher's work? Comment:	

Teacher Evaluation of Lesson Plans: Method I (Language)

Evaluation of Language Program

__________ Name of Teacher
__________ School
#1 - Language Number of Method

In completing this report, please make your evaluation in terms of most of the children in your research group or conditions which were true most of the time.

I. General Comments

Directions: Please limit your response to the following questions to one word. If you wish to comment further, use last page.

1. Did you find the lesson plans easy or difficult to follow? __________
2. Did you find it easy or difficult to hold the children's attention throughout the class period? __________
3. Do you feel that the children were really interested in the language activities? __________
4. Were the children able to carry out most of the seatwork activities independently as you were working with another group? __________
5. Write the average number of class periods which were necessary for teaching the work of a given page. __________
6. Were you able to use at least half of the suggestions under Related Activities in some way? __________

II. Specific Comments

Write yes or no after each of the following questions.

1. Listening Activities

   a. In general, were the listening activities interesting to you and the children? __________
   b. Have most of the children learned to name beginning letter sounds of words used in auditory training? __________
   c. Do most of the children demonstrate good listening habits by being able to carry out directions? __________
   d. Do most of the children follow a direction the first time it is given? __________
   e. Have most of the children improved in their ability to listen to one another in discussion? __________
   f. Do most of the children show increasing skill in listening to questions in order to answer them precisely? __________
   g. Do the children usually try to follow standards for listening? __________

2. Oral Activities

a. Do most of the children use picture clues to interpret pictured action? __________
b. Do most of the children show increasing ability in constructing oral sentences? __________
c. Do most of the children show increasing ability in relating events in sequential order? __________
d. Has the group as a whole, shown increasing ability in evaluating their oral activities by using standards? __________
e. Could the activities involving usage (see-saw; is-are) be carried out quite successfully? __________
f. Cross out any of the following types of activities which you did not do. Then number the remaining activities according to the group's ability to participate (#1, indicating the activity accomplished most successfully; #6, indicating the activity accomplished least successfully)

__________ discussion

__________ story telling

__________ dramatization

__________ choral speaking

__________ giving explanations

__________ giving directions

3. Writing Activities

a. Do most of the children use good letter formation when writing? __________
b. Do most of the children use the prescribed place for beginning letters when writing? __________
c. Do most of the children follow the prescribed direction and sequence of strokes when making letters? __________
d. Are most of the children able to use picture clues independently in supplying letters to complete words and in writing whole words? __________
e. Do most of the children employ adequate spacing between letters and words when writing on paper and at the chalkboard? __________
f. In general, is the letter formation of the children in the research group as good as that of most of the children in your room? __________
g. Are most of the children able to evaluate their own manuscript writing or the writing of others in the group? __________
h. Were some of the pages which were assigned for independent seatwork in My Practice Book too difficult to be used in this way? __________

If you wrote yes in answering the above question please list pages (not more than three) which proved too difficult to be used for independent seatwork.

i. How do you think most of the pages in My Practice Book should be used with children in the research group: (Check one of the following)

______As directed activity, under the teacher's supervision

______As independent seatwork activity, while the teacher is busy with other children

If you wish to make any further comment, favorable or unfavorable about the materials you have used in your method, please use this page. Your own comments would be extremely helpful in future planning for children similar to those you have been teaching. Do not hesitate to make critical comments of any kind.

Teacher Evaluation of Lesson Plans: Method II (Letter Sounds)

LESSON EVALUATION

Scale 1 - 2 (below) 3 (average) 4 - 5 (above)

	Length	Appeal to children	Appeal to teacher	Difficulty	Work Assignment			Comments
					L	A	D	
Lesson 1 a. b.								
Lesson 2 a. b.								
Lesson 3 a. b.								
Lesson 4 a. b.								
Lesson 5 a. b.								
Lesson 6 a. b.								
Lesson 7 a. b.								
Lesson 8 a. b.								
Lesson 9 a. b.								
Lesson 10 a. b.								

Teacher Evaluation of Lesson Plans: Method III (Literature)

EVALUATION OF LESSON

Teacher:____________________

School:____________________

Lesson No.__________ Date:______________

Appeal	
Effectiveness	
Length	
Strengths of Lesson	
Weaknesses of Lesson	
Strengths of Children	
Weaknesses of Children	
Additional Suggestions	
Teacher's Needs	

5-5

Teacher Evaluation of Lesson Plans: Method IV (Skills Development)

Teacher's Comments WEEK NO. ____________________ A.M. CLASS _______________

Mon.	
Tues.	
Wed.	
Thurs.	
Fri.	

Teacher Evaluation of Pupil Progress: Method II (Letter Sounds)

TEACHER'S TABULATION SHEET

Evaluation of Letter Knowledge for H,D,F,I,G,U

	Knowledge of Letter Names				Visual Discrimination		Association of Capital and Lower Case Forms		
	#1a		#1b		#2a		#3		
Names of Children	Number Correct	Letters Missed	Number Correct	Letters Missed	Number Correct	Letters Missed	Number Correct	Pairs Missed	Understanding Purpose

Teacher Evaluation of Pupil Progress: Method IV (Skills Development)

INDIVIDUAL EVALUATION OF ALL SKILLS

Name______________________________

Dates:														Comments:
Rhyming:	5													
	4													
	3													
	2													
	1													
Visual Discrimination:	5													
	4													
	3													
	2													
	1													
Visual Motor:	5													
	4													
	3													
	2													
	1													
Beginning Sounds:	5													
	4													
	3													
	2													
	1													
Thinking Skills:	5													
	4													
	3													
	2													
	1													

Teacher Evaluation of Pupil Progress: Method IV (Skills Development)

COMPARISON OF CLASS SCORES

Skill: ______________________________

Name	Dates:											Comments:
	5											
	4											
	3											
	2											
	1											
	5											
	4											
	3											
	2											
	1											
	5											
	4											
	3											
	2											
	1											
	5											
	4											
	3											
	2											
	1											
	5											
	4											
	3											
	2											
	1											

Forms Filled Out by Teachers at Final In-service Meeting

(Child's name -- last name first)

(School)

(Date of birth)

(Your name and position)

DATE

FACTORS WHICH YOU FEEL MAY INFLUENCE THIS CHILD'S BEHAVIOR: Home-family, physical, social (relations with children and adults), other.

Forms Filled Out At Last In-service Meeting

TEACHER REACTIONS:

On this sheet please note any particular reactions you had during the period of presenting INITIAL READING EXPERIENCES (first semester only for most teachers).

Method ____________
Teacher____________
School____________
Date______________

Your reactions to the method with which you worked:

Your reactions to the materials with which you worked:

Your reactions to the lesson plans with which you worked:

General Suggestions: (Use the other side if needed)

Forms Filled Out At Last In-service Meeting

Method________________
Teacher________________
School________________
Date________________

TEACHER REACTIONS:

On this sheet please note your reactions to more FORMAL READING EXPERIENCES (2nd semester).

METHOD:

Perusal________________

Oral reading (in place of silent reading)________________

Weaving a story background (do you prefer to have the story written or left to you?):________________

Breaking lessons into story lessons and study lessons:________________

Indirect teaching of words:________________

MATERIALS:

Dictionaries:________________

HOP ON POP:________________

Pocket Charts:________________

COME WITH US:________________

Colored word cards:________________

Other:________________

LESSONS:

Shorter amount of time on each story:________________

____

Pacing: too fast? slow? just right?________________

Continuous vs. divided lessons:________________

Length of lessons (Indicate % of lesson you were usually able to cover):________________

Forms Filled Out At Last In-service Meeting

TEACHER REACTIONS:

Method__________________
Teacher__________________
School__________________
Date__________________

1. Words:
   a. What do you feel your research children know about words?

   b. How do your research children compare in knowledge of words with other children in the room?

2. Comprehension:
   a. What do your research children know about comprehension?

   b. How do they compare in this respect with other children in the room?

3. Formal reading instruction:
   Please list the children whom you feel were ready for formal reading instruction earlier than the beginning of second semester.

   ____________________ ____________________

   ____________________ ____________________

   ____________________ ____________________

   Do you feel it was a disadvantage to keep some children in the enriched, pre-reading program?__________Comment:______________

   ____

4. What are your reactions to a broader vs. a narrower pre-reading program?

   ____

   ____

   ____

   Continue on the reverse side any comments which you were unable to complete above. Number your comments so they correspond with questions on this side.

Forms Filled Out At Last In-service Meeting

Method ________________
Teacher________________
School________________
Date________________

CHILDREN WHO MADE PROGRESS

List names of children who were extremely slow but who made outstanding progress.	List names of children who were not particularly slow but who made good progress.

CHILDREN WHO DID NOT MAKE PROGRESS

List names of children who were extremely slow who did not make progress.	List names of children who were not particularly slow who did not make progress.

Please list below the names of the children who have had special services, such as speech:

(name)	(type of service)

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APPENDIX D

Characteristics of School and Community

Cedar Rapids Time Allotments

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CHARACTERISTICS OF SCHOOL AND COMMUNITY

1. First grade school entrance age in the Cedar Rapids schools is determined by the Iowa law. A child must be five years of age on or before the 15th of September of the current school year, to be eligible for entrance to kindergarten in the public schools of Iowa. THERE ARE NO EXCEPTIONS TO THE REGULATIONS OF THIS LAW AS IT APPLIES TO KINDERGARTEN ENTRANCE.

2. The official school day for first grade pupils in the Cedar Rapids schools is five and one-half hours.

3. The average first grade class size for 1964-65 is 25.5.

4. The official school year comprises 190 days, which includes ten non-instructional days.

5. The school size ranges from 200 to 750 with a median of 440. The number of first grade classes in the 1964-65 school year is (75). There are no first grade classes combined with any other grade.

6. The size of the Cedar Rapids Community School District is 75 square miles, with a population of approximately 106,000. The total enrollment of the schools as of September 1964 was 21,700, with 1,800 pupils enrolled in the first grade. There are 28 elementary schools (K-6), six junior high schools (7-9), and two senior high schools (10-12).

7. There are no central libraries in the elementary schools. Room libraries are provided, however, with an average of approximately 12 books per pupil. This information is based on the book inventory of the 1963-64 school year and includes all books other than basal adoptions,

encyclopaedias, magazines, periodicals, and books generally classed as supplementary readers. A Curriculum Center is provided for the enrichment of all areas in the elementary schools. This department is housed in the administration building with a full time consultant in charge. This consultant serves as a materials resource consultant for the elementary schools and sends books to all schools on a loan basis, as requested by teachers. This center also has a great variety of other resources such as special science equipment (bioscopes, microscopes, telescope science sky-zoo, and many others) and social studies equipment (incubators, churns, model machinery, etc.), all on a loan basis.

8. The economic status of the community is described as excellent according to the U. S. Department of Labor. From month to month, Cedar Rapids has one of the lowest percentages of unemployed people among all cities. The average income per family in 1964 was $6654.00. According to the U. S. Census of Population, 1960, the median school years completed for adults 25 and over in Cedar Rapids was 12.1.

9. The occupational characteristics of the community are primarily industrial with a high concentration in the field of electronics, heavy road building equipment, cereal mills, and meat packing. The labor market is described as skilled with a heavy concentration of technicians, engineers, and scientists.

10. The general condition of the community is regarded as stable. About 10 percent of the total volume of manufactured products is exported.

11. Cedar Rapids has a very high concentration of Czech people, while the Negro population is approximately one percent. There are virtually no foreign speaking groups.

12. The (K-6) per capita direct cost, which includes instructional,

operation and maintenance costs only for the 1964-65 school year in the school district, based on average daily attendance, was $400.82.

13. The prescribed first grade time allotments in all Cedar Rapids schools are shown below. They are planned in large blocks, including related subjects, whenever possible. The following are provided to serve as reference for making schedules. Adaptations are made to meet various school organizations. This sample is based on the following school day:
A. M. 9:00-11:30 P.M. 12:30 - 3:30

Grade One

OPENING ACTIVITIES		9:00 - 9:15	15"
LANGUAGE ARTS		9:15 -10:30	60"
Reading	(Group Instruction (Independent Activities	(20" to each of three groups)	
Language	(Skills Instruction (Proofreading		15"
OUTDOOR PLAY	Recess, Drinks, Rest Room	10:30 -10:55	25"
SKILLS		10:55 -11:30	
Handwriting	Class Instruction		15"
Numbers	Class Instruction		15"
*OPENING ACTIVITIES (Literature (Dramatic Play		12:30 -12:45	15"
LANGUAGE ARTS		12:45 - 1:45	60"
Reading	Group Instruction Independent Activities		
#CURRICULUM FOUNDATION		1:45 - 2:00	15"
(Social Studies	Class Instruction		
(Health	Class Instruction		
(Extension Reporting (Reading			
OUTDOOR PLAY	Recess, Drinks, Rest Room	2:00 - 2:25	25"
SCIENCE	Class Instruction	2:25 - 2:40	15"
CREATIVE ACTIVITIES		2:40 - 3:15	
Music	Class Instruction		15"
Art	Class Instruction		20"
PHYSICAL EDUCATION	Class Instruction	3:15 - 3:30	15"

*Literature, four days a week. Dramatic Play, one day.
#Social Studies and Health on alternating days, two days each per week.
Reporting on stories read in extension readers, one day.

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APPENDIX E

Tables

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TABLE 44

Sex and Pupil Attrition

Started in September	Methods							
	I	II	III	IV	V	VI	VII	Total
Total number boys	35	35	38	52	41	41	43	285
Total number girls	33	31	34	24	27	26	37	212
Total Boys and Girls	68	66	72	76	68	67	80	497

Tested in May	Methods							
	I	II	III	IV	V	VI	VII	Total
Total number boys	27	24	23	34	26	19	24	177
Total number girls	20	23	22	19	17	10	21	132
Total Boys and Girls	47	47	45	53	43	29	45	309

TABLE 45

Pupil Attendance

Number of Days Absent	Methods						
Boys	I	II	III	IV	V	VI	VII
0-5	13	13	6	11	8	6	7
6-10	6	6	8	9	9	5	7
11-15	4	3	4	9	5	4	5
16-20	3	1	6	4	2	2	2
21-25		1			1	2	3
26-30	1	1			1		
Girls							
0-5	3	10	6	8	3	3	7
6-10	10	8	7	3	8	1	5
11-15	5	2	4	5	4	4	5
16-20	2	2	4	3			4
21-25					2		
26-30				1		2	

TABLE 46

Teacher Attendance

Days Absent	Methods							
	I	II	III	IV	V	VI	VII	Total
0-5	5	5	4	5	3	2	3	27
6-10	2	2	1	2	3	3	2	15
11-15			2					2
16-20								
21-25	1							1

TABLE 47

Marital Status of Teachers

Marital Status of Teachers	Methods							
	I	II	III	IV	V	VI	VII	Total
Single	3	6	4	4	4	3	4	28
Married	5	1	4	3	3	4	3	23
Total	8	7	8	7	7	7	7	51

TABLE 48

Teacher Training

Type of Degree Held	Methods							
	I	II	III	IV	V	VI	VII	Total
Less than B.A.			2		1	1		4
B.A.	7	7	5	7	6	6	5	43
M.A.							2	2
M.A. +	1		1					2

TABLE 49

Teacher Age

Teacher Age	Methods							
	I	II	III	IV	V	VI	VII	Total
20-25 years	2	6	2	4	2	2		18
26-30 years	3			1	1	1	3	9
31-35 years		1	2		1			4
36-40 years	1						2	3
41-45 years					1	2	1	4
46-50 years	1		1	1		1		4
51-55 years			1		1		1	3
56-60 years			1			1		2
61-65 years	1		1	1	1			4
Total	8	7	8	7	7	7	7	51

TABLE 50

Teacher Experience: Years of First Grade Experience

Number of Years of First Grade Experience	Methods							
	I	II	III	IV	V	VI	VII	Total
0-5 years	6	7	4	4	4	4	5	34
6-10 years			1	2				3
11-15 years	1		1		2			4
16-20 years	1					2	1	4
21-25 years			1		1	1		3
26-30 years							1	1
31-35 years				1				1
36-40 years			1					1
41-45 years								
Total	8	7	8	7	7	7	7	51

TABLE 51

Total Years Teaching Experience

Total Number of Years Teaching Experience	Methods							
	I	II	III	IV	V	VI	VII	Total
0-5 years	5	7	4	4	3	3	2	28
6-10 years				2			1	3
11-15 years			2		1	1	1	5
16-20 years	1						1	2
21-25 years	1		1		2	1		5
26-30 years						1	2	3
31-35 years					1	1		2
36-40 years	1		1					2
41-45 years				1				1
Total	8	7	8	7	7	8	7	51

TABLE 52

Comparison of I.Q.'s Obtained on WISC Verbal and Pintner-Cunningham

WISC	Pintner-Cunningham 60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100-104	105-109	110-114	115-119	120-124	125-130	Total
130-125							1								1
124-120						1				1					2
119-115					1	2		3		2			1		9
114-110					1	5	6	2	4	4	3				25
109-105				1	3	8	4	6	2	4	1		1		30
104-100			1	5	6	13	12	9	9	4	2	1			62
99-95			3	3	12	5	5	6	10	3	2	1			50
94-90			1	6	6	12	5	4	5	1	1				41
89-85	1	4	1	4	7	9	7	1	3					1	38
84-80		2	3	3	5	4	2	2	2						23
79-75	1	1	5	2	4	4	1		1						19
74-70	1	1	2		1										5
69-65			1			1			2						4
64-60															
Total	3	8	17	24	46	64	43	33	38	19	9	2	2	1	309